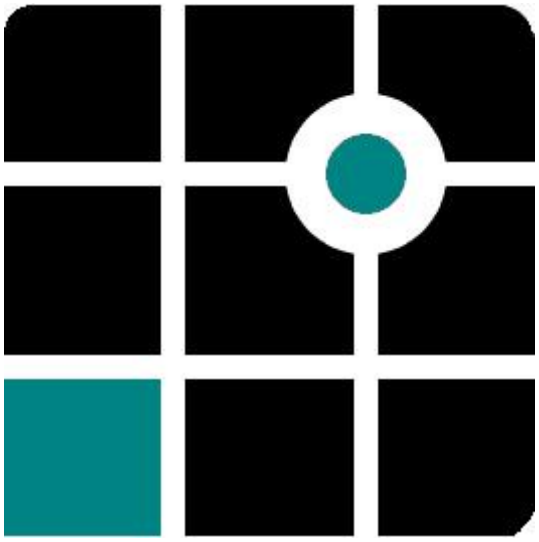

eLux® NG - Embedded Linux for Thin Clients Next Generation

Version 1.34

Administrator's Guide

Build Nr.: 27

UniCon Software GmbH

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1 Before You Begin

1.1 Who Should Use This Manual

This manual is for system administrators responsible for installing, configuring, deploying and maintaining Embedded Linux Next Generation (eLux® NG), and for experienced users. This manual assumes knowledge of:

- Installation, operation and maintenance of network and asynchronous communication hardware, including serial ports, modems and device adapters
- The operating system (OS) on the client computer

While eLux NG is Linux® based, the advantage of eLux NG is that no significant knowledge of Linux is needed for either the administrator or the end user.

1.2 About This Guide

Starting with unpacking the appliance, this documentation presents step-by-step directions to run the Thin Client using eLux NG. For convenience, the manual is divided into the following parts:

Chapter		Description
1	Before You Begin	Manual conventions, overview of eLux NG functions and features
2	Quick Start	How to get eLux NG running quickly
3	Setup	Instructions on how to set eLux NG desktop settings, hardware settings, mirroring, security settings, VPN
4	Configuring Applications	Instructions on how to configure local applications and session clients
5	Troubleshooting	Detailed instructions on how to recognize and enter a manual eLux NG upgrade license, how to perform a safe boot, how to perform a factory reset, and solutions to frequent user errors
6	Recovery Installation	Detailed instructions on how to return the Thin Client to default settings and default flash image are provided with our separate Papers **Recovery Installation** and **Migration and Server Transfer**. A recovery is necessary to update from eLux 1.0 to NG.
7	Shortcut Keys	Keyboard shortcuts
	Appendix 1: Desktop	Introduction to the eLux NG desktop: starter, taskbar, workspaces
	Appendix 2: Memory Usage	Memory usage data
	Appendix 3: Examples of Internet Profiles	A list of the default ISDN and modem profiles included in the eLux NG software
	Appendix 4: Configuring Kiosk Mode	Detailed instructions on how to configure kiosk mode
	Appendix 5: Setting Thin Client Time to UTC	How to set BIOS time to UTC
	Appendix 6: Supported Hardware	List of supported hardware: network cards, video cards, keyboards, modems
	Appendix 7: Supported Smart Card Readers	List of supported card readers
	Appendix 8: Port	eLux NG and Scout Enterprise port numbers for firewall

Assignments	administrators

1.3 Conventions and Abbreviations

1.3.1 Conventions

The following are text formats and symbols that appear in the manual:

Convention	Description
>	Move to a tab or directory.
⇨	Refers to a procedure with sequential steps.
•	Refers to a list of related information, not procedural steps.
“ ... “	Quotation marks refer to screen text and text in pop-up messages.
ALL UPPERCASE	Represents keyboard keys (for example, ENTER, F4, CTRL).
Bold	Indicates boxes and buttons, column headings, command-line commands and options, dialog box titles, tabs, icons, lists, menu names and menu commands, and directories, subdirectories and folders.
`Courier New`	The Courier New font represents entries you can type at the command line or initialization files.
<*Italics*>	Indicates a placeholder for information or parameters that you must enter. As an example, if the procedure asks you to type <*IP address*>, you must type the actual IP address. Italics can also refer to book titles.

Two stars (**) next to a title indicates this function is not supported by all hardware platforms.

1.3.2 Commonly-Used Abbreviations

The following are terms that appear in the manual:

Abbreviation	Description
ADSL	Asymmetric Digital Subscriber Line
base OS	Base operating system
BDC	Backup Domain Controller
BOOTP	Bootstrap Protocol
DHCP	Dynamic Host Configuration Protocol
DNS	Domain Name Service
GUI	Graphical User Interface
ICA	Independent Computer Architecture
IP address	IP addresses are represented in four 3-digit groups separated by periods. *Example*: .....`192.45.85.1`
LDAP	Lightweight Directory Access Protocol, a TCP/IP-based protocol for accessing information directories and retrieving directory information such as e-mail addresses, public keys,

Abbreviation	Description
	etc.
MAC address	Media Access Control address. The format of a MAC or hardware address is: xx:xx:xx:xx:xx:xx *Example*: ..... `00:30:05:07:85:1A`
MSN	Multiple Subscriber Number
NFS	Network File System
PCL	Printer Control Language
PDC	Primary Domain Controller
PXE	Pre-Boot Execution Environment
RDP	Remote Desktop Protocol
RFC	Request For Comments. A series of documents about Internet protocols, moderated by the Internet Engineering Task Force.
SMB	Server Message Block
SNMP	Simple Network Management Protocol
VNC	Virtual Network Computing
XDMCP	X Display Manager Control Protocol

1.4 Finding More Information

This manual contains conceptual information, and installation and configuration steps for eLux NG. Additional information is available from the following sources:

- The *eLux NG Administrator's Guide* for previous releases of eLux NG.
- The *Scout Enterprise Administrator's Guide* for information on the Scout Enterprise management tool and the supplementary program and image editor ELIAS NG.

This guide as well as other eLux NG documentation is available in Adobe PDF format. It can be found in the following locations:

- The documentation folder on your eLux NG CD-ROM
- The product documentation library at www.myelux.com

1.5 eLux NG on the World Wide Web

UniCon offers online technical support at www.myelux.com. This includes the following:

- An actual version of this document in PDF
- Downloadable software
- The latest updates and hotfixes for download
- A list of supported hardware

1.6 Overview of eLux NG

1.6.1 What is eLux NG?

eLux® NG is a Linux-based, complete desktop solution which offers the Thin Client user fast, comfortable and secure access to Windows® and other servers in a server-based environment. Server-based computing is known for reducing the total cost of ownership and administrative costs – important factors in today's economy.

In server-based computing, applications run on a central server. "Client" software is installed locally on a terminal to enable the device to connect to the respective server. eLux NG provides access to the following servers:

Server	Client
• Microsoft® Windows® Terminal Server	Remote Desktop Protocol (RDP) client
• Citrix® MetaFrame® Server	Independent Computer Architecture (ICA®) client
• Web server	Opera, Mozilla, Firefox
• UNIX® system	X11 server (local desktop or XDM)
• Mainframes	Terminal emulations: • eterm (Siemens 97801 [7 & 8 bit], ANSI, AT386, BA-80, VT320) • Terminal Emulation for Motif (3270, 5250, 9750) • PowerTerm InterConnect (3270, 5250, VT3xx, AT386, Wyse and more)
• SAP server	SAP®GUI for the Java environment
• Tarantella server	Tarantella client

eLux NG can be installed on a flash card (for use in Thin Clients) or a hard disk, turning your PC into a multifunctional terminal!

eLux NG is a Linux-based embedded operating system. However, neither the end user nor the administrator needs Linux knowledge to use or configure the software. The interface is user-friendly, and can be operated using the mouse or keyboard. Additionally, the QT interface has been streamlined to insure the maximum amount of space for client applications and to reduce initialization time upon start.

- **IBM** 3270 (TN3270E), 3179, 3278, 3279, 5250 (TN5250 with device name support), 3477
- **Digital** VT52, VT100, VT220, VT320, VT420, VT520, VT525
- **ANSI** BBS-ANSI, SCO-ANSI, AT386
- **Other** Wyse (50/60), Data General D-412, Televideo TVI 925/950, AIXterm

Updating Firmware

Updating the firmware on your terminal is fast and easy using the “container method.” All required software is provided in the so-called “containers,” which are available on the eLux NG CD or for download on the Internet. The software to be installed on the device is determined by the image definition file (IDF). The IDF is edited using the program **eLux NG Image Administration Service Next Generation** (ELIAS NG), which is available to owners of eLux NG at no additional charge and allows the administrator to customize the software installed on the device to exactly satisfy end-user requirements. The use of ELIAS NG is not discussed in this manual. Please consult the *Scout Enterprise Administrator’s Guide* for more information.

Management Tool

eLux NG can be 100% managed from a central location, again without any Linux know-how, using the management tool **Scout Next Generation** (“Scout Enterprise”). This application is installed on a PC and must be purchased separately. Please consult the *Scout Enterprise Administrator’s Guide* for information on how to install and use ELIAS NG and Scout Enterprise.

Compatibility

eLux NG version 1.20 should be used with *Scout Enterprise* version 5.5.12 (and later) and ELIAS NG version 5.2.4 (and later).

Defining Packages

Not just any software can be installed on the device – the software must be compatible with the container method. In addition to the software provided on the eLux NG CD, software updates are available on the Internet 24 hours a day! These include new client software, base OS updates, new drivers, etc. For ease of use, these “packages” are already in eLux NG-compatible format.

In addition, you can create your own packages – for example, to install a specific driver – using the **eLux Builder Kit** (EBK). Advanced Linux knowledge is required. More information on this product is available at the Web site www.myelux.com.

1.6.2 Features of eLux NG

eLux NG offers the following features:

- Easy installation Installs on flash cards or hard disks. eLux NG can also be installed on CD-ROMs or USB sticks to boot from the peripheral device.

  You can install eLux NG on a device that does not yet have eLux NG installed or has another operating system installed by performing a recovery installation. This can be done using a recovery CD or the PXE EPROM of the network card.
- **User-friendly interface** The QT GUI has been streamlined to insures a low start time. The appearance of the eLux NG desktop is modern and can be personalized using desktop themes. In addition, corporate branding is possible by setting the background color or transferring a background image.
- Network **hardware support** Extensive support of all current technologies and additional legacy technologies, including Ethernet, gigabit Ethernet, fiber optics, modem, ISDN, USB ISDN, DSL and Token Ring.
- **Wireless LAN support** You can connect to an access point using a Cisco Aironet card.
- **Simple** desktop **management** The first time the device starts, a First Contact Wizard appears to help the user through the initial configuration. After that, customizing the desktop settings to fulfill the needs of the user is simple for the administrator using the easy-to-use “eLux NG starter” (Setup tab). The options are laid out logically and intuitively.
- **Application management** Applications can be easily created using the eLux NG starter (Configuration tab). The applications can be set to automatically start at device boot or automatically restart when the application is closed.
- **Easy firmware management** The firmware installed on the device can be easily managed using the “container method” and the image definition file editor ELIAS NG, Windows-based software available to users of eLux NG at no additional charge.
- Comprehensive **management** eLux NG can be 100% managed from a central location, again without any Linux know-how, using the management tool **Scout Next Generation** (“Scout Enterprise”). *Scout Enterprise* offers additional features such as automatic software license distribution, license transfer, recovery settings configuration, background image transfer, configuration file transfer, help desk and more.
- **License** transfer If the device becomes defect, the eLux NG license is not lost. Note: The device must be managed by Scout Enterprise.
- **Security** Support of authentication servers during logon, including LDAP and ADS. This provides greater system entry security into networked environments by limiting user access to the system. Smart card support for local authentication, user roaming, and Citrix ICA logon. SSH and virtual private networks are supported.
- **User variables** In conjunction with an authentication server, user variables allow for configuration consolidation, reduce configuration time for the administrator and simplify the configuration overall. In addition, special ICA variables are available when you log on to MetaFrame server using Program Neighborhood, allowing you to set a unique client name in the Citrix MetaFrame session.
- **Network** drives Connect to network drives with SMB or NFS protocol.

- **Printing** Printing support for network printers and local printers (line printer, PostScript, PCL v. 2) connected via serial, parallel or USB. The Common UNIX Printing System™ (CUPS™) client supported.
- **Language** Desktop support of most common European languages, keyboard support of most common keyboard layouts. The eLux NG starter itself can only be displayed in English or German.
- **Multi-monitors** When used with a Matrox graphics card, eLux NG supports up to four monitors.
- **Peripheral** devices You can use up to eight USB mass storage devices at a time, in addition to a USB mouse and USB keyboard. In addition, you can access serial peripheries using a USB to serial adapter from Digitus.
- **Backing store** Saves screen information to the local X11 server on the thin client. This increases the screen refresh speed when the network connection is slow.
- **SNMP** eLux NG supports the Simple Network Management Protocol.
- **Time server** support You can use a Windows or UNIX time server to properly set the time on the Thin Client.
- **Advanced monitor options** You can set resolution up to 1600x1200. eLux NG comes with a screen saver to increase monitor life and power delay energy saving feature that turns the screen off after a specified idle time. In addition, the screen can be locked with a one-time password.
- **Help desk** features Interactive, real-time mirroring capabilities.
- Troubleshooting One-click viewing of various logs and system files from the diagnostics tab, factory reset to remotely delete the configuration and all locally-saved files, recovery installation to reformat the flash card or hard drive.

No other terminal software offers the features and flexibility of eLux NG!

1.6.3 New Features in eLux NG 1.8

- **Autostart** application **feature can be suppressed** Press SHIFT when the device boots to suppress applications configured to automatically start.
- **COM port** settings It is now possible to change the COM port settings.
- **Desktop** tools New desktop tools include a QT-based file manager for browsing the local flash and a text editor.
- **Languages** New desktop language: Estonian. New keyboard languages: Estonian, Japanese (ICA client only), Bulgarian and Faeroese.
- **Mouse and keyboard settings** You can now set the mouse double-click speed, mouse drag speed, key delay and key repeat speed. In addition, the NUMLOCK key can be deactivated upon boot.
- **Movie player** Play DVDs and MPEG files, as well as other file types. The files can reside on the Thin Client, a network drive or the Internet.
- **NoMachine** The NoMachine NX client is now available for eLux NG. The NX client connects to an NX server (running on a Linux or Solaris machine). The NoMachine software provides terminal server functionalities, X-Window protocol compression and tunneling of protocols such as RDP. It improves performance across slow modems.
- **Virtual** keyboard Display a virtual keyboard on the screen to enter characters into a program using a mouse click. This is useful for kiosk terminals or for workstations without a keyboard.
- **Web tools** Adobe® Acrobat® Reader® is available as browser plug-in or as a stand-alone program. RealPlayer® is available as a plug-in.
- **XDMCP** An XDMCP session can now run in a local window, rather than in a separate console.

1.6.4 New Features in eLux NG 1.9

- **Card** readers GemPC Twin USB (USB only) and GemPC Key are supported. GemPC Key is a USB reader in key format which reads/writes smart cards in plug-in form. Gemplus card readers can be used with Citrix ICA smart card logon.
- **Mirroring** password You can password-protect a mirroring session.
- **Network** cards AT-2700FX PCI LAN card from Allied Telesyn, Inc. and OLICOM 3140 PCI Token Ring card from Madge Limited are now supported.
- **ThinPrint** Can now print to network printers in addition to local parallel and USB printers.
- **USB stick** Support of MemoryBird USB 2.0 Revision 2 from Fujitsu Siemens Computers formatted by Windows 2000 or Windows 2003.

1.6.5 New Features in eLux NG 1.10

- **Card reader** SPR532 dual mode PINpad from SCM Microsystems. For use as a USB card reader (PINpad not supported, RS232 not supported).
- **Desktop** theme New desktop theme “XP.”
- **Handhelds** The palmOne™ Tungsten™ E and HP iPAQ pocket PC 2003 handhelds are now supported.
- **Network card** Gigabit Ethernet network cards of type Broadcom Tigon 3 (BCM570x) are now supported.
- **Wireless LAN** The Connect2Air USB network adapter from Fujitsu Siemens Computers is now supported.

1.6.6 New Features in eLux NG 1.11

- **Card** reader EZ100PU USB card reader from Castles Technology Co.
- **Desktop icons** Desktop shortcuts for applications can be defined on the eLux NG desktop. Double-clicking with the middle mouse button on an icon redraws all icons.
- **Starter** Improved ease of use. The selected application remains selected when switching between the Applications tab to the **Configuration** tab.

1.6.7 New Features in eLux NG 1.12

- **Browser** The Firefox browser is now available.
- **RDP** keyboard **mappings** Bulgarian, Czech, Czech/US, Estonian, Faeroese, French (Switzerland) and Japanese are now supported.
- **RDP ports** You can access serial ports using the native RDP client.
- **RDP** smart **card** Certificate-based smart card logon using RDP 1.4.0 is now supported.
- **USB to** serial **converter** The USB v. 24 converter from DIGITUS or Sandberg with chip PL2303 or PL2303-HX is now supported.
- **VPN** The Nortel Contivity VPN is now supported.
- **XFree 4.4.0** New X11 server.

1.6.8 New Features in eLux NG 1.14

- **Screen** The monitor frequencies have been optimized.

1.6.9 New Features in eLux NG 1.17

- **COM ports** The COM ports 3 and 4 have been renamed to COM ports 5 and 6. For example, when a PCI card is inserted, the two new ports – COM 5 and COM 6 – can be made available. View available ports in eLux NG starter > **Setup** > **Hardware** > “COM port settings.”
- **Handhelds** The palmOne™ Tungsten™ 5 handheld is now supported.

- **Network card** The network speed can now be set to “1 Gbit” in eLux NG starter > **Setup** > **Hardware**. This applies only to the gigabit Ethernet network card Broadcom Tigon 3 (BCM570x). All other card parameters are automatically configured.
- **PC/SC lite** The PC/SC lite software has been removed from the base OS and is now available as a stand-alone upper-level package.
- **Program** Neighborhood **Agent** PNA sessions can no longer be disconnected using the eLux NG starter.
- **XDMCP** Applications that are e-sound compatible can now be played in an XDMCP session.

1.6.10 New Features in eLux NG 1.20

- **Thunderbird Mail Client V1.0.6**
- **Sun Java™ 2 Runtime Environment V 1.5** supports Java Web Start as a local application.
- Cisco Aironet Utility has been extended by "leapscript" and "leapset" for LEAP authentication.

1.6.11 New Features in eLux NG 1.21

- SSID and Channel can be configured in the WAVELAN settings

1.6.12 New Features in eLux NG 1.22

- Printer can be verified by sending a test page (Text formatted or Postscript)
- PDA Qtek S100 support
- Graphic card Radeon 9100 PRO IGP supported
- DHCP lease is now stored permanently
- Improved detection of Intel network adapters
- Fibre optic adapter DLINK DFE 550 FX supported
- Fibre optic adapter AT2701 FTX supported
- Card reader Omnikey CardMan 2020 and Omnikey CardMan 6020 supported
- 'Shutdown' button is available in userauth and smartcard dialogs

1.6.13 New Features in eLux NG 1.23

- Starter/Desktop: New button to sync time/date with time server
- Starter/Security: New dialog for advanced manager settings to enter info properties
- Starter/Security: New button to select a group from the list of available groups
- Starter/Security: New button to delete the manager and set the client unmanaged (factory reset will be performed)
- If the DHCP server is unreachable on boot, IP network connections are not available. If DHCP connection was established and DHCP server fails, the client will loose its IP address when half the lease time has elapsed.

1.6.14 New Features in eLux NG 1.25

- Futro D100 now supports screen resolution 1280x1024/85Hz/24bbp
- Graphic adapter Intel 945G supported
- Taskbar: new button to show desktop (minimize/restore all windows)
- Starter/General: Serial number is now listed
- Starter/Multimedia: New slide to change microphone volume

- Starter/Multimedia: Volume slides are now vertical
- WLAN WPA mode supported, TKIP or Radius EAP (certificate based)
- WLAN client adapter Intel PRO/Wireless 2200BG supported
- Kernel V2.4.32
- AES encryption between eLux NG clients and *Scout Enterprise* V8.5.5
- The screen saver is now locked by the actual user password and no longer by user-defined password (requires a configured user authorisation).
- Starter/Diagnosis: IP availability can be verified with Ping
- Print performance enhanced when printing to parallel port

1.6.15 eLux NG Software Packages

Terminalserver:

- ICA Client (Citrix), V 9.15
- NX Client (NoMachine), V 1.5.0
- RDP Client (Linux), V 5.2
- Tarantella Client (Linux), V 4.20.909
- ThinLinc, V 1.20

Host Connectivity:

- SAPGUI Client (Java),V 6.40rev6
- eterm – 97801 Terminal emulation , V 2.2.2
- X97 – 9750 Emulation V 2.4.7
- PowerTerm, V 7.1
- HOB Link Jterm, V 3.3 (not included in standard delivery)
- X11 Terminal with XDM support

Hardware Support:

- PCL Printer Support
- Cisco Aironet Utility
- WLAN USB
- WLAN DLINK
- USB Compaq IPAQ Driver, Pocket Loox
- USB Handspring Visor, Palm Driver
- Cherry KVK Reader
- KV Card
- PCSC Lite
- Touchscreen Elographics Input Driver, V 2.0-1 (not included in standard delivery)
- G-Touch, Touchscreen Driver (not included in standard delivery)

Printing:

- ThinPrint, V 1.6.69
- CUPS Print Client, V 2.0-11

Browser:

- Firefox , V 1.5.0.1
- Mozilla, V 1.7.12
- Opera, V 8.5

Mail Client:

- Thunderbird Mail Client, V 1.5

Desktop:

- Desktop themes
- Desktop tools (CD Player, Calculator, File Manager, Editor)
- XScreensaver

Document Viewer:

- Adobe Acrobat Reader, V 5.09; V 7.0.5

Multimedia:

- Macromedia® Shockwave® Player, V 7.0r63
- Movie Player (DVD, MPEG, DivX, etc.), V 1.0.7.1
- RealPlayer®, V 10.0.7

Middleware:

- IBM Java: Sun
- Sun Java Runtime Environment, V 1.5.0.6
- Sun Java Web Start

Network Management:

- net-SNMP, V 4.2.1

Network Security:

- Secure Shell (SSH)
- Cisco Systems VPN Client 4.8

Security:

- User authorization with LDAP, ADS, SMB, V 2.5-13

Helpdesk:

- VNC Server; VNC Client

Additional Software (ThirdParty):

Accelerated-X™ Display Server, V 2.2.22

A list of all currently available software and version numbers is available at www.myelux.com.

Some software is included in the eLux NG license, other is third-party software that must be purchased separately. For more information, see your vendor.

2 Quick Start

This chapter provides the basic steps necessary to configure the Thin Client for use as a Windows-based terminal and open a session via ICA. It does not describe all eLux NG features. For detailed descriptions on eLux NG settings and configurations, see chapters 3 and 4.

Section		Description
2.1	First Boot	Flow chart and description of the first boot procedure
2.2	First Configuration Wizard	Step-by-step, detailed instructions of the Wizard that appears the first time the device is turned
2.3	Troubleshooting	Error messages and answers to common problems upon boot
2.4	eLux NG Interface	eLux NG main screens
2.5	User Settings	How to configure user settings
2.6	Defining an Application	How to define your first application
2.7	Sessions	How to start and close applications
2.8	Shut Down	How to switch off/restart the Thin Client, log off the user, or activate the screen lock

2.1 First Boot

Unpack the device, attach the cables and turn it on.

We highly recommend using the *Scout Enterprise* software to centrally manage your eLux NG clients.

The Thin Client is delivered containing eLux NG software and a default image on the flash memory. This figure shows the boot procedure the first time on the Thin Client is switched on.

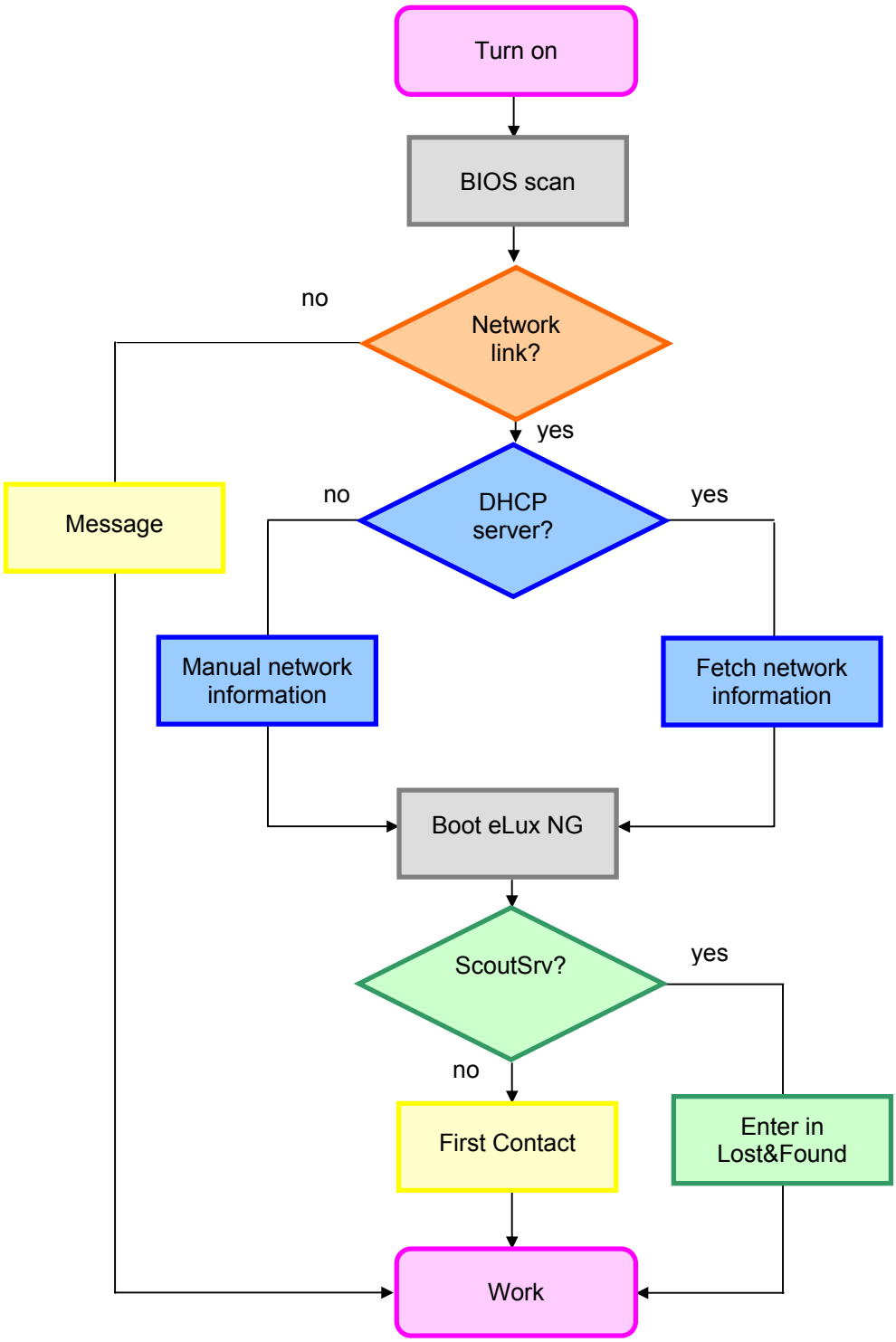


Figure 1: Boot procedure for the first boot

First Boot Procedure:

This is the boot procedure for a Thin Client *with default settings* (upon delivery, after a factory reset, or after a Recovery Installation):

1. Scan BIOS
2. Check if a LAN (Ethernet) connection is available
   - If none is found, an error message is displayed, eLux NG is booted, and the First Configuration Wizard appears, allowing the user to set initial user settings. Go to step 6.
3. Make a DHCP server request
   - If a DHCP server is not found, an error message is displayed, eLux NG is booted, and the user is asked to enter the network information manually. Go to step 6.
4. Boot eLux NG
5. The device is automatically entered in *Scout Enterprise* and configured. Requirement: The hostname “ScoutSrv” has been set to the *Scout Enterprise* Server IP address on the DNS server.
   - If the hostname “ScoutSrv” cannot be resolved, this step is skipped.
6. First Contact: A Wizard appears, helping the user through the initial configuration.

This procedure does not apply to subsequent boots.

2.2 First Configuration Wizard

By default, the first time the Thin Client successfully boots, a Wizard appears to help you through the configuration process.

You have the choice between entering the device in the management software *Scout Enterprise* or configuring it by hand.

If a DHCP server was contacted, the IP address is displayed at the top. Otherwise, a default value is displayed.

2.2.1 Managed Device

2.2.1.1 Step 1: Activating Manager

The *Scout Enterprise* server that manages the Thin Clients is referred to as the "manager."

If the device is to be managed and the IP address of the *Scout Enterprise* server is known, select **Yes**.

If the Thin Client will not be managed, you can still configure the device manually. Select **No** and go to section "2.2.2 Manually Configured Device".

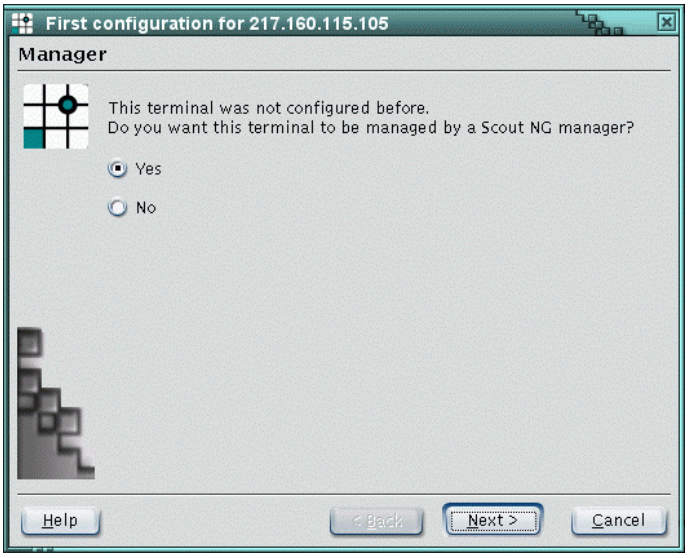


Figure 2: First contact: Activating manager

2.2.1.2 Step 2: Manager Address

Enter the IP address or name of the Scout Enterprise manager.

Entering information in the Information fields is optional.

Click **Next**.

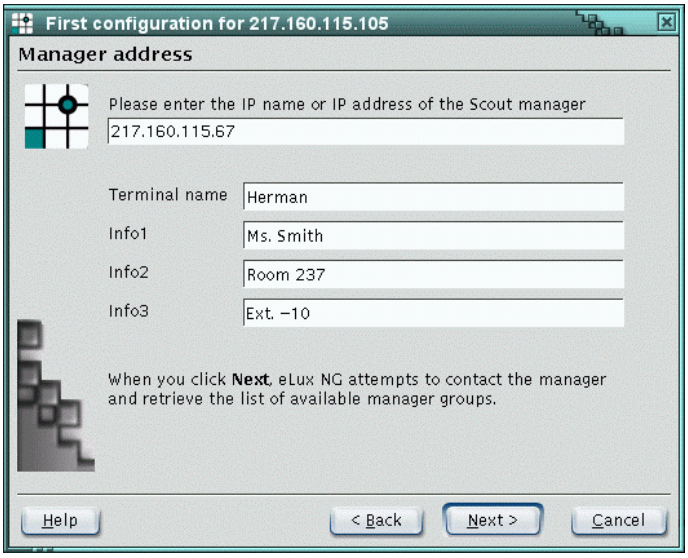


Figure 3: First contact: Entering manager IP address

2.2.1.3 Step 3: Manager Groups

Next, you are asked to select the destination Group of the device on the Scout Enterprise server. Default is Lost&Found (ID=0).

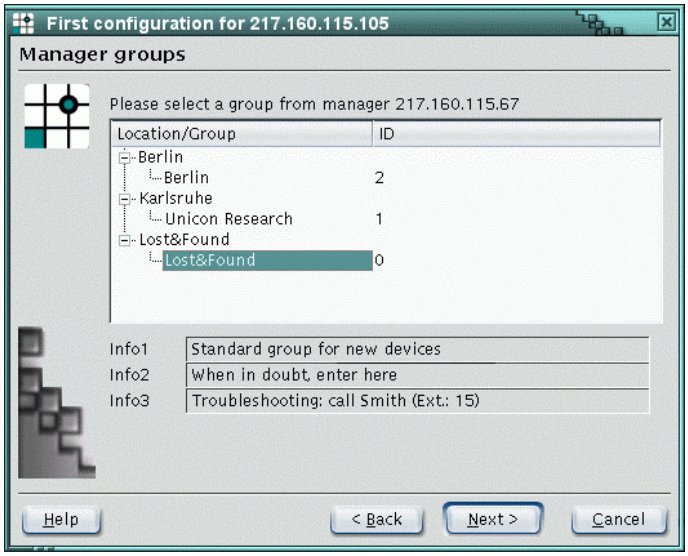


Figure 4: First contact: Manager groups

2.2.1.4 Step 4: Summary

Finally, you are given a summary of the entered information.

When you click **Next**, the device is registered in the Scout Enterprise Server, entered in the destination Group, and restarted. Upon boot, it contacts Scout Enterprise and downloads its configuration and application definitions. In addition, you can configure Scout Enterprise to automatically update the software.

If a profile for this device already exists in Scout Enterprise, the device will not change Groups. Rather, its status in Scout Enterprise will be updated and it will receive the configuration of the existing profile.

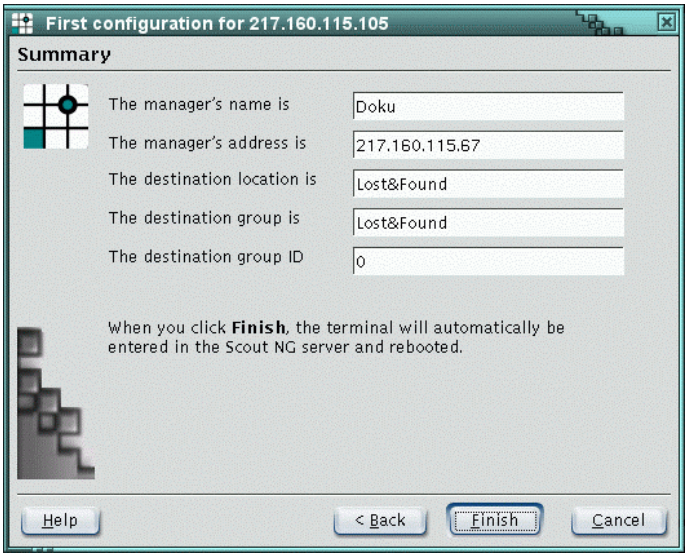

First configuration for 217.160.115.105
Summary
The manager's name is Doku
The manager's address is 217.160.115.67
The destination location is Lost&Found
The destination group is Lost&Found
The destination group ID 0
When you click Finish, the terminal will automatically be entered in the Scout NG server and rebooted.
Help
< Back
Finish
Cancel

Figure 5: First contact: Summary

For more information on the management software Scout Enterprise, see the *Scout Enterprise Administrator's Guide*.

2.2.2 Manually Configured Device

2.2.2.1 Step 1: Deactivating Manager

The Scout Enterprise server that manages the Thin Clients is referred to as the "manager."

If the device is to be managed and the IP address of the Scout Enterprise server is known, select **Yes** and go to section "2.2.1 Managed Device".

If the Thin Client will not be managed, select **No** to configure the device manually.

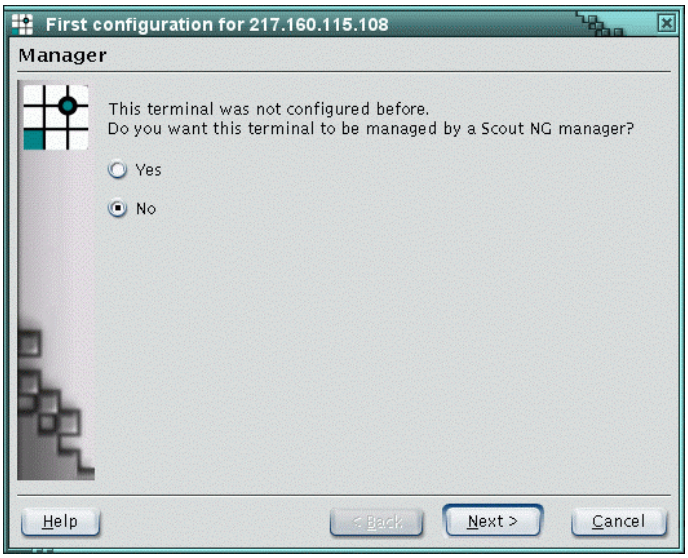


Figure 6: First contact: Activating manager

2.2.2.2 Step 2: Mouse / Keyboard

Select your **desktop language**. The eLux NG screen elements themselves can only be displayed in English or German. However, your country's language must be set for applications to work correctly.

Select your **keyboard language** from the country-specific list.

Select the **mouse type**.

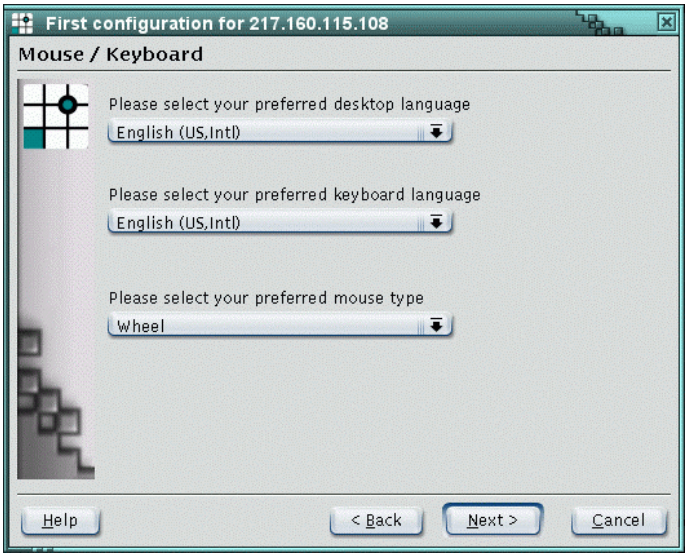


Figure 7: First contact: Mouse / Keyboard configuration

2.2.2.3 Step 3: Summary

Finally, you are given a summary of the entered information.

When you click **Next**, the configuration is updated and the desktop may be restarted.

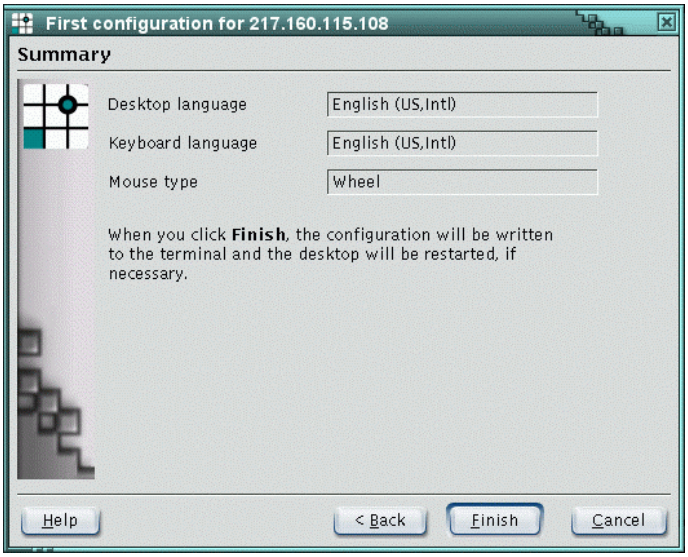


Figure 8: First contact: Summary

The Wizard assists you in setting minimum user settings. User settings are described in detail in chapter “3 Setup.”

2.3 Troubleshooting

Problem: An error message appears at boot saying the network interface “etho0” has been disconnected.

Solution: There is no LAN connection. Check for loose cable connections. Check that the cable is patched and the port is active.

Problem: An error message appears at boot saying the DHCP client does not have IP address information.

Solution: When a DHCP time-out occurs the first time the Thin Client boots, eLux NG network settings are set to “manual” and you are prompted to enter network settings by hand. A Wizard appears to guide you through the process.
Please be aware that the next time the Thin Client boots, it will not automatically search for a DHCP server. To set network settings to DHCP, in the eLux NG starter go to **Setup** > **Network**.

2.4 eLux NG Interface

After completing the first configuration Wizard, the eLux NG interface appears. The main window is referred to in this documentation as the “eLux NG starter”. Screen elements can only be displayed in German. For all other desktop languages, the screen elements appear in the default language, English (US). However, the desktop language setting is required for local applications to run correctly.

There are three main tabs at the top: **Applications**, **Configuration** and **Setup**.

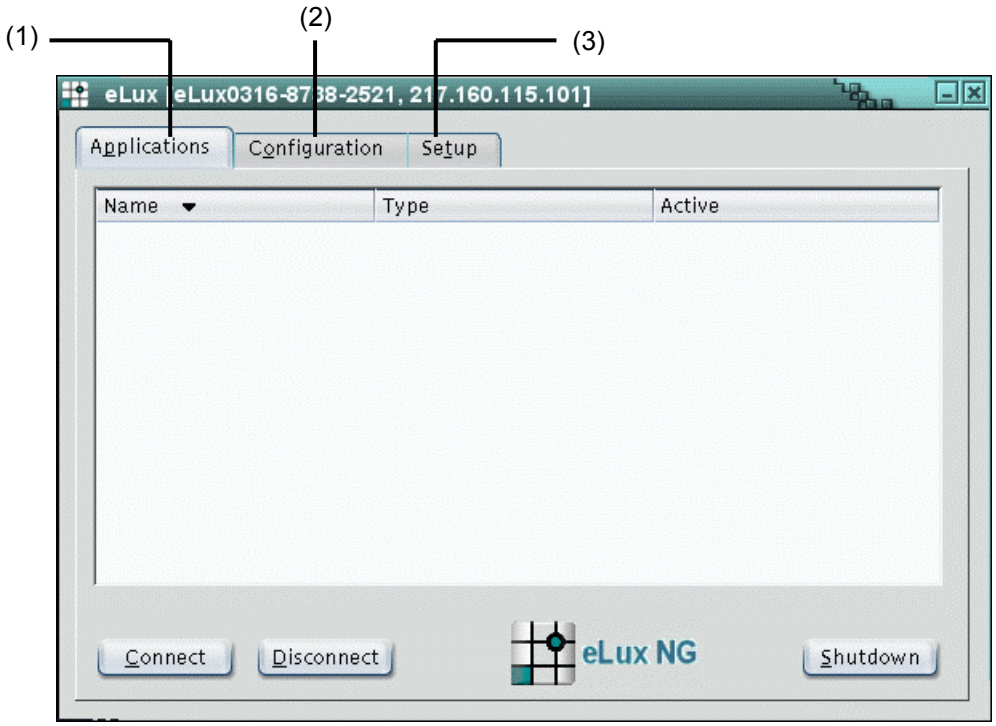


Figure 9: Initial eLux NG screen

(1) **Applications tab** Displays a list of configured applications, allowing you to connect/disconnect a session.

(2) **Configuration tab** For configuring applications.

(3) **Setup tab** For configuring eLux NG settings.

Initially, the **Applications** and **Configuration** tabs are empty, and the **Setup** tab contains a default configuration.

The eLux NG starter is mouse based. However, it is possible to navigate the eLux NG starter using the keyboard by pressing ALT + <*underlined letter*>. For example, press ALT + T to jump to the **Setup** tab.

Clicking the **Setup** tab displays the following:

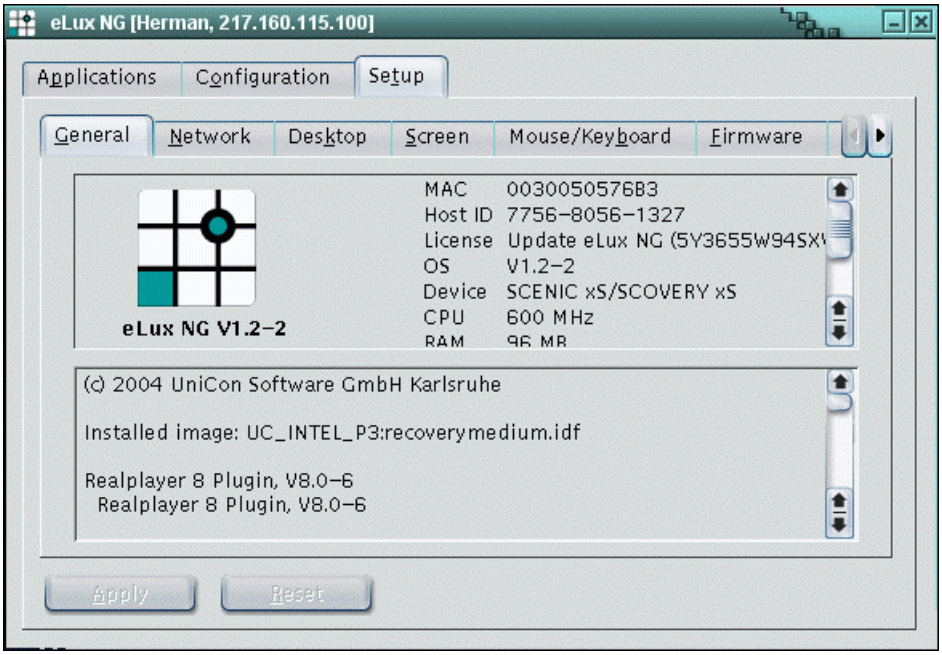


Figure 10: Setup

The subtabs **General**, **Network, Desktop, Screen, Mouse / Keyboard, Firmware** are displayed. Click the ► symbol to display the subtabs **Security**, **Multimedia**, **Drives, Printer, Hardware, VPN, Diagnostics**.

2.5 User Settings

The **Setup** tab is used to configure desktop settings. It is not necessary to modify all settings in order to get the Thin Client ready for use. This chapter describes the minimum settings required to get eLux NG running.

2.5.1 Making changes

Modifying the settings activates the **Apply** and **Reset** buttons.

- Click Reset to discard changes.
- Click Apply to accept changes.

Some changes require the graphical user interface (GUI) or the terminal to be restarted. In this case, after clicking **Apply** the message: “The changes require a new start of the user interface. Continue?” appears.

- Click Yes to restart immediately.
- Click No to restart at a later time.

In Quick Start, we configure the minimum settings user settings. These include the subtabs **Desktop, Mouse / Keyboard, Screen** and **Network, Hardware** in the **Setup** tab. You already configured some settings in the First Configuration Wizard.

- Desktop language Subtab Desktop (see section “3.3 Desktop”)
- Keyboard language, mouse type Subtab Mouse / Keyboard (see section “3.5 Mouse / Keyboard”)

In addition, you should configure the following:

- Screen resolution, color depth
- Network IP information
- Network hardware

2.5.2 Screen

Screen settings are set in the **Screen** subtab. Please adjust settings to your monitor. (default settings: resolution = 1024x768, frequency = 60 Hz, color depth = 16 bit)

Figure 11: Setup > Screen

⇨ To modify the screen settings

From the **Setup** tab, click the **Screen** subtab.

1. Select your monitor resolution, frequency and color depth.
2. Click **Apply** and **Yes** in the **eLux NG Starter** dialog box regarding restart.

The **Screen** subtab is described in detail in section “3.4 Screen.”

2.5.3 Network

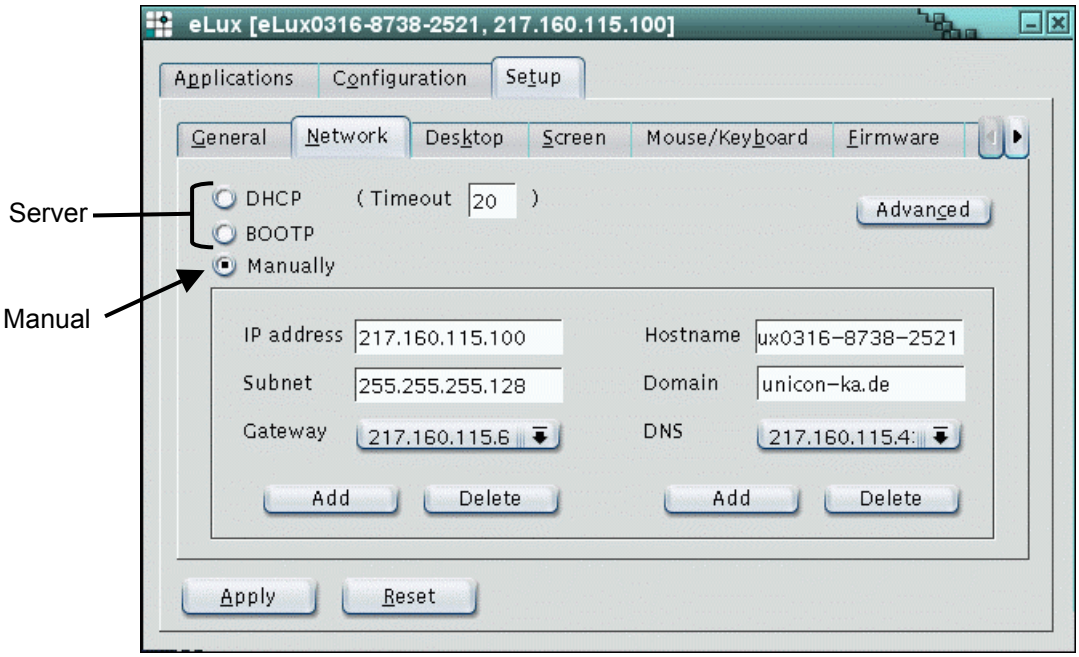


Figure 12: Setup > Network

⇨ To modify the network settings

From the **Setup** tab, click the **Network** subtab.

1. The network settings can be automatically retrieved from a DHCP or BootP server, or they can be is set manually.
2. Click **Apply** for modifications to take effect.

Configuring network settings is discussed in detail in section “3.2 Network”.

2.5.4 Network Hardware

The First Configuration Wizard automatically detects and sets an Ethernet LAN connection. However, if you have ADSL, Token Ring or ISDN, you must enter the hardware settings manually.

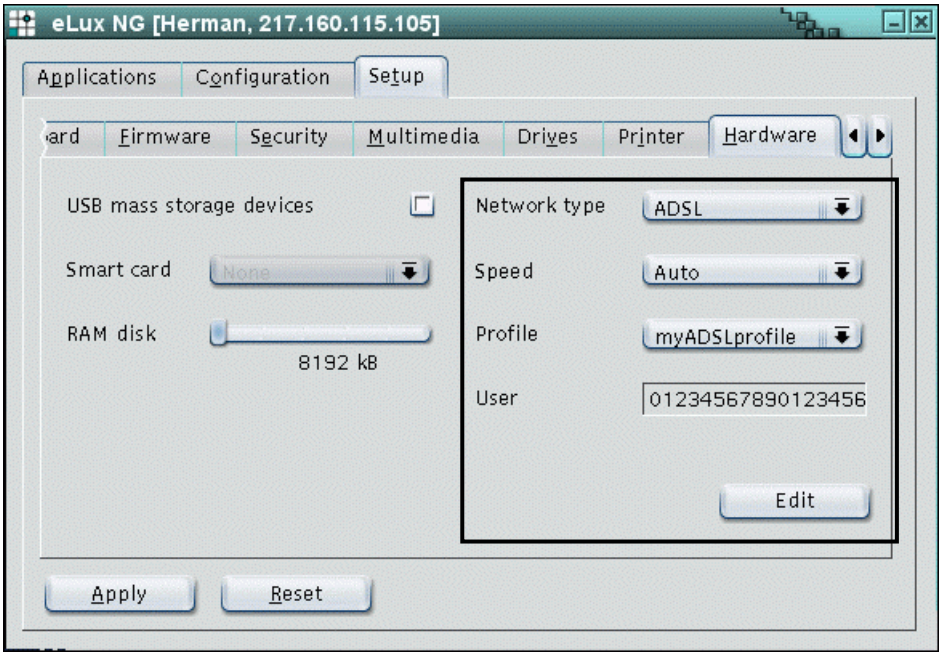


Figure 13: Setup > Hardware

⇨ To modify the network hardware settings

From the **Setup** tab, click the **Hardware** subtab.

1. Select the network type.

- **Token Ring** Select the speed. Generally **Auto** (=”automatic detection”) is sufficient.
- **ADSL, ISDN** Click **Edit** to enter user information (account name, password, dialup number, etc.).

2. Click **Apply** for modifications to take effect.

Configuring network hardware settings are discussed in detail in section “3.13 Network Hardware.”

Next, we define an application in the **Configuration** tab.

2.6 Defining an Application

Let's configure a Windows desktop via an ICA session.

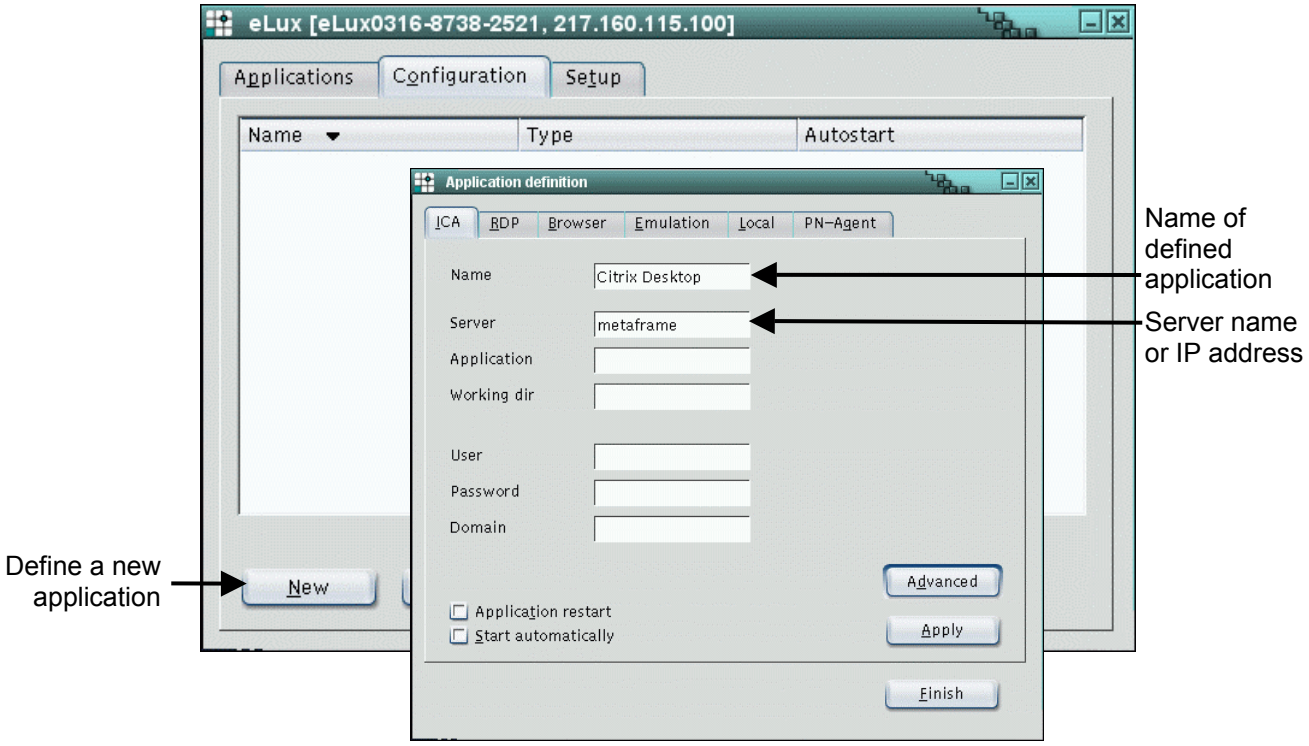


Figure 14: Configuration > ICA

⇨ To configure a Windows session via ICA

1. From the **Configuration** tab, click **New**. This opens the **Application definition** dialog box, which contains a number of subtabs. The subtabs reflect the firmware installed on the Thin Client's flash memory (*.idf file).
2. Click the **ICA** tab.

   Name: Enter a name for this application. You can enter any name, however we recommend you make it relevant to the application (that is, "Citrix Desktop" for a remote desktop, etc.).

   Server: Enter the IP address (or name) of the MetaFrame server (at this point, use an individual server, not a server farm). The **Application** and **Working directory** fields can be left empty for the moment.

   User, Password, Domain: (optional) Required for automatic logon. For now, can be left blank.
3. Click **Apply** in the **Application Definition** dialog box and **Finish** in the **Configuration** tab.

When you open the **Application definition** dialog box, the main eLux NG screen is disabled. Close the **Application definition** dialog box to re-enable the main eLux NG screen.

If the **Application definition** dialog box is hidden by another screen, you can use the "task hotkey" CTRL + ALT + ↓ not only to switch between application windows, but also to switch between eLux NG screens. See "Task hotkey" in chapter "3.3 Desktop," page 32.

Configuring applications is discussed in detail in chapter 4.

2.7 Sessions

2.7.1 Starting an Application

Figure 15: Applications tab

⇨ To start an application

Once you have configured an application, click the **Applications** tab. The applications appear in alphabetical order.

Click on a column title to sort in ascending order. Click a second time to sort in descending order.

To run the Windows application you configured, either:

- highlight the application and click Connect or
- double-click the application or
- click with the left mouse button on the applications button in the taskbar (see Appendix 1: Desktop)

2.7.2 Exiting an Application

The **Disconnect** button disconnects a session.

The **Disconnect** button can be used to close a local application (browser, shell, user-defined command, resource information, etc.)

However, a remote session should be closed from within the session itself. For example, for ICA:

- ICA desktop Start menu (Start menu > Shut Down > Log off)
- ICA application Application command (File menu > Exit)
- ICA published application Application command (File menu > Exit)

etc.

If you use the **Disconnect** button to end a remote session, open applications continue to run on the server. This can cause problems for the server administrator.

2.8 Shut Down

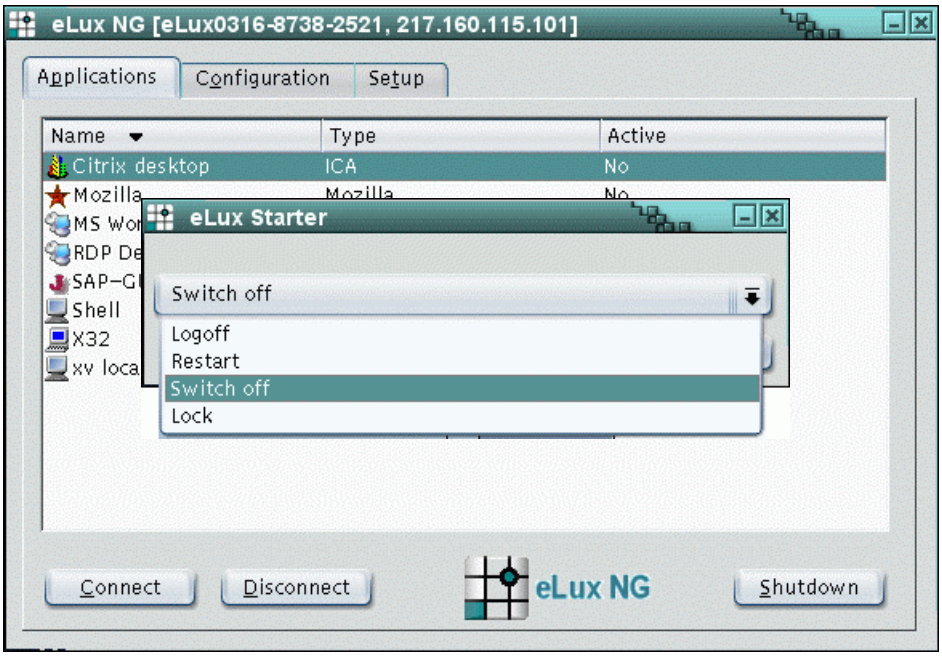


Figure 16: Applications > Shut Down

⇨ To shut down the Thin Client

The **Shutdown** button in the **Applications** tab provides three standard and one optional option:

- **Logoff** ends the session for that user. This is useful when more than one person uses the Thin Client.
- **Restart** restarts the Thin Client. This is necessary for certain **Setup** changes to take effect (if you did not restart the Thin Client previously).
- **Switch off** turns off the power to the Thin Client.
- **Lock** is a security feature. It is part of the Desktop Tools package ("Local X display locker," xlock) and must be installed. By default it is not installed.
  Enter a screen saver password containing numbers or letters. Do not use country-specific letters with accents or symbols. Press **Enter**. Wait two seconds. The screen locks.
  To return to the monitor, pause the screen saver by pressing a key or moving the mouse and enter the correct password. The lock feature lasts only for the current session. Turning off the Thin Client ends the screen lock.
  The hotkey to initiate the screen lock from any session is CTRL + ALT + END.

Note The screen lock password is an arbitrary password for one use only. It is not the same as your the Thin Client password. The screen lock password is not saved, that is, you must re-enter a screen saver password every time you use the Lock feature. The exception is if when an authentication server is activated. In this case, the screen lock is preset with the password.

Conclusion

Chapter 2 showed how to get your Thin Client up and running quickly as a Windows-based terminal. This is only the beginning of what eLux NG offers. For complete descriptions of eLux NG settings and step-by-step directions on how to configure other types of applications, see chapters 3 and 4.

3 Setup

This chapter describes how to configure eLux NG desktop settings.

Section	Description
3.1 General	Viewing Thin Client hardware information, eLux NG license, MAC address, installed image name, version of eLux NG starter and firmware versions
3.2 Network	Setting network IP information via BootP server, DHCP server or manually
3.3 Desktop	Desktop language settings, background color, key combination for switching between open sessions, date and time settings, taskbar and workspace settings
3.4 Screen	Screen settings, screen saver, energy save mode, font server, backing store
3.5 Mouse / Keyboard	Mouse and keyboard settings, deactivating dead keys
3.6 Firmware	Server parameters for a firmware update via FTP or HTTP server, configuring for update from a USB stick or CD-ROM
3.7 Security	Description of and how to set the Thin Client password, how to set user rights, the authorization hotkey for overriding locked settings, how to connect to an authorization server, usage possibilities for user variables
3.8 Multimedia (Volume)	Volume settings
3.9 Drives	Configuring an SMB drive
3.10 Browser Home Directory	Setting the home directory for a local browser to an NFS or Samba network drive
3.11 Printer	Configuring local printers, configuring network printers, activating TCP direct print, using Thin Client as a print server, Citrix ICA autocreated printer
3.12 Hardware	Activating the USB port, setting the number of monitors, increasing RAM disk size
3.13 Network Hardware	Configuring the Thin Client for Ethernet, ADSL, ISDN, modem, Token Ring, wireless LAN
3.14 Remote Management	Entering Scout Enterprise manager settings
3.15 Smart Card	Using smart cards as an eLux NG security feature and for user roaming, or for automatic Windows logon. How to deactivate the card reader when not in use.
3.16 Mirroring	Description of and how to configure device to allow (or prohibit) remote mirroring from an administrator machine
3.17 VPN	The different virtual private networks eLux NG supports
3.18 Diagnostics	How to view log files or send them to an FTP server

3.1 General

⇨ To view eLux NG license and installed software

From the **Setup** tab, click the **General** subtab.

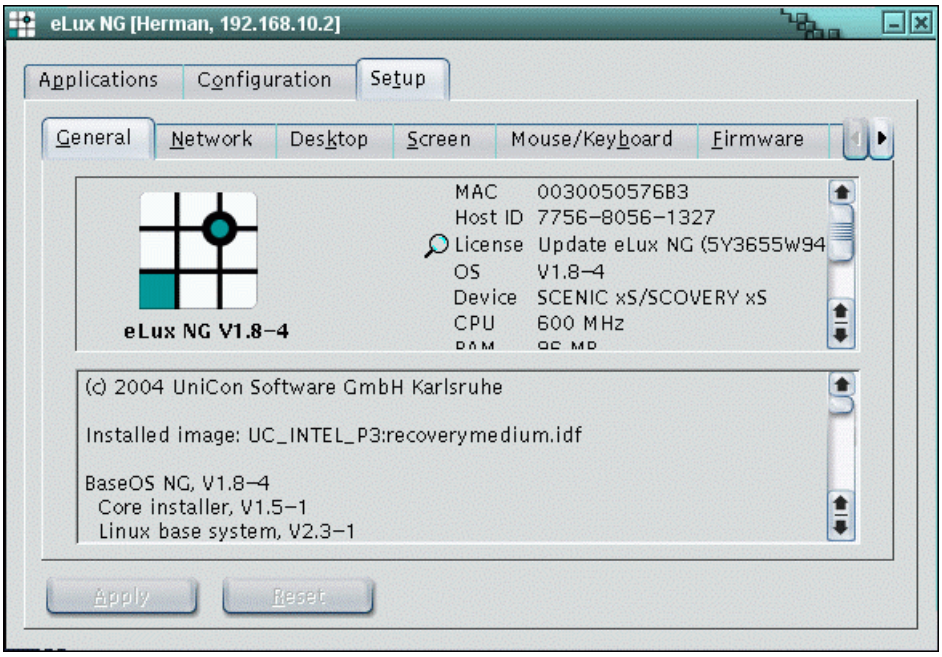


Figure 17: Setup > General

In the **General** tab you can find the thin client's MAC address, license number, host ID and related hardware information. If you double-click on "License," the license dialog box appears for manual entry of a new license.

Go to the scroll box to find the name of the installed image, as well as a list of the software packages installed on the Thin Client's flash card (including version numbers).

The **Apply** and **Reset** buttons are not active, as there are no changes that can be made.

In all other **Setup** subtabs the **Apply** and **Reset** buttons are context sensitive. After making changes to settings, click **Apply** and confirm the request to restart to save the new values. To discard changes that have not yet been applied, click **Reset**.

3.2 Network

Before you can begin working, you need to assign an IP address to your client. here are three ways to set network settings: DHCP server, BootP server or manually.

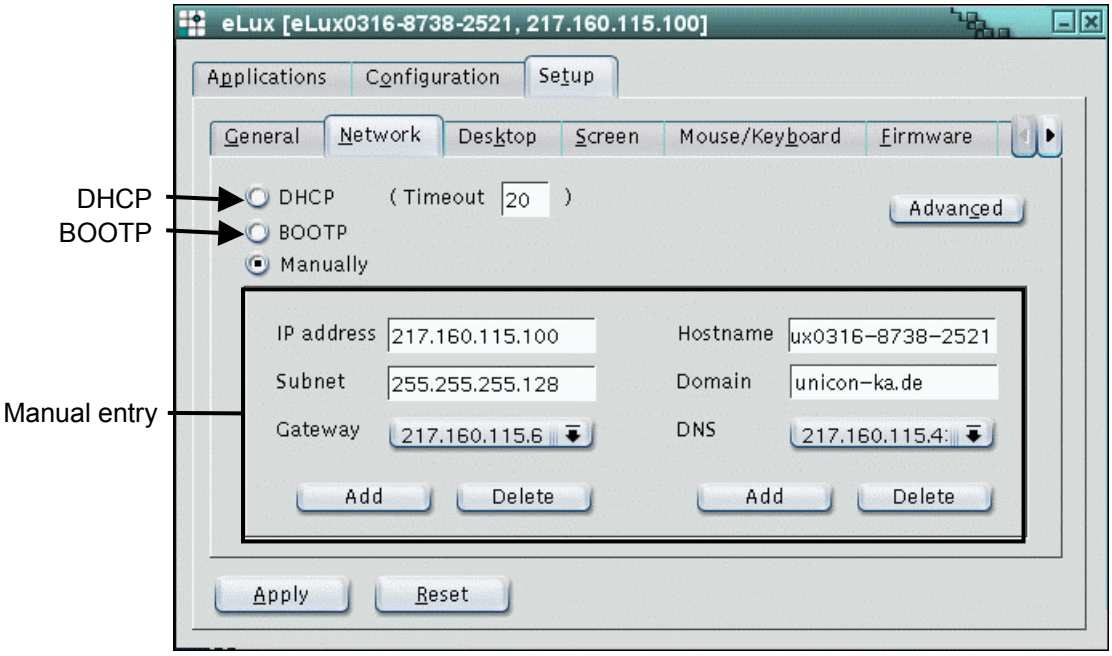


Figure 18: Setup > Network

3.2.1 Dynamic Host Configuration Protocol

A Dynamic Host Configuration Protocol (DHCP) server assigns the client a dynamic IP address. This means that the IP address assigned to the Thin Client changes periodically (the interval is set on the DHCP server). DHCP also supports a mix of static and dynamic IP addresses. DHCP simplifies network administration because the server and not an administrator assigns IP addresses – when a new Thin Client is added to the network, it automatically receives an IP address and network settings. Due to its flexibility, most networks use DHCP.

1. From the **Setup** tab, click the **Network** subtab.
2. Select **DCHP**. You can also set a time-out in seconds. The default is 20 seconds.
3. (optional) Enter a local hostname. It will be transferred to the server upon boot if server settings permit (a hostname may not already be defined on the server).
4. Click **Apply** and **Yes** in the **eLux NG Starter** dialog box regarding restart.

If a server is not found within the defined time, it uses the settings saved from the previous session.

3.2.2 Bootstrap Protocol

A Bootstrap Protocol (BootP) server assigns the client a static IP address. This means that the IP address assigned to the Thin Client is fixed. A BootP server is more work for the administrator, because the administrator must configure the server when a new Thin Client is added to the network.

1. From the **Setup** tab, click the **Network** subtab.
2. Select **BOOTP**. The BootP standard time-out is a fixed 10 seconds.

3. (optional) Enter a local hostname. It will be transferred to the server upon boot if server settings permit (a hostname may not already be defined on the server).
4. Click **Apply** and **Yes** in the **eLux NG Starter** dialog box regarding restart.

If a server is not found within the defined time, it uses the settings saved from the previous session.

3.2.3 Manual Entry

If you do not have one of the above servers, you can enter the IP address and network information directly on the terminal.

1. From the **Setup** tab, click the **Network** subtab.
2. Click **Manually**.
3. Enter the IP address, subnet mask, host name and domain.
4. To enter a gateway (router) address, click the **Add** button below **Gateway**.

- Enter the IP address in the dialog box. Click **OK**.
- Repeat until you have entered all gateway addresses.
- To delete a gateway entry, select it from the **Gateway** list and click **Delete**. Click **Yes** in the **eLux NG Starter** dialog box.
- To change the order, you must delete and re-enter the IP addresses.

5. To enter the IP address of a domain name server, click the **Add** button below **DNS**.

- Enter the IP address in the dialog box. Click **OK**.
- Repeat until you have entered all DNS addresses.
- To delete a DNS entry, select it from the **DNS** list and click **Delete**. Click **Yes** in the **eLux NG Starter** dialog box.
- To change the order, you must delete and re-enter the IP addresses.

6. Click **Apply** and **Yes** in the **eLux NG Starter** dialog box regarding restart.

To avoid network conflicts, verify that the IP address you enter is not in use by another machine or assigned a DHCP pool.

Those are the three ways to enter the IP address and network information on a Thin Client. The following two sections describe advanced features, such as how to set the client hostname on the DHCP server using the terminal or how to set a local hosts list.

3.2.4 Setting the Host Name via DHCP

With a DHCP request it is possible to transfer the local host name to the DHCP. The host name will then be visible at the DHCP server.

1. Click **Manually**.
2. Enter the host name of the Thin Client in the field **Hostname** and click **Apply**. The remaining fields should stay empty – they are automatically set by the DHCP server.
3. Click **No** in the **eLux NG Starter** dialog asking for restart.
4. Click **DHPC**.
5. Click **Apply**.
6. Click **Yes** in the **eLux NG-Starter** message box asking for restart.

3.2.5 Setting a Hosts List When No Name Server Is Present

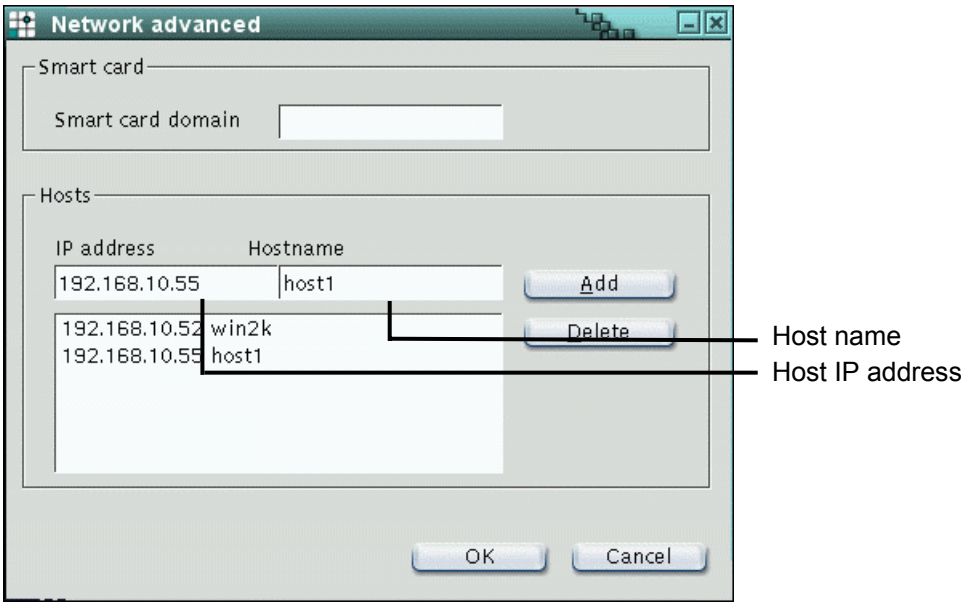


Figure 19: Advanced Network Settings dialog box

eLux NG allows you to store a hosts list locally. This allows you to use host names even if your network does not contain a domain name server (DNS). The hostnames and IP addresses must be entered manually.

1. Click **Network** tab > **Advanced**. The **Network advanced** dialog box appears.
2. Enter the host name and its IP address in the appropriate boxes. Click **Add**. To delete an entry, select it and click **Delete**.
3. Click **OK** and then **Apply** in the **Network** tab.

3.3 Desktop

Desktop settings can be individually tailored to your country's language and time zone.

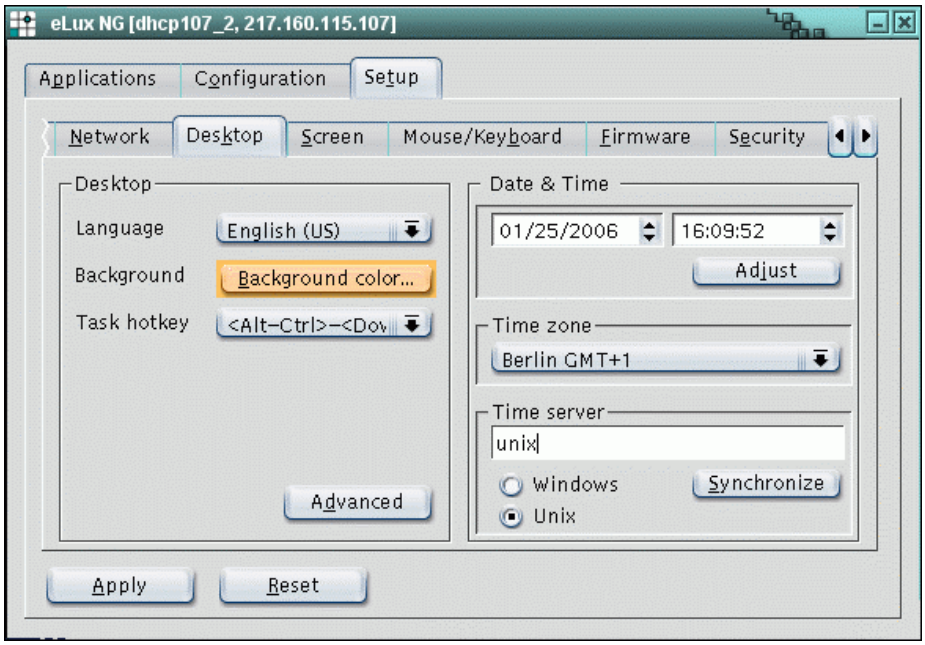


Figure 20: Setup > Desktop

⇨ To modify the desktop settings

From the **Setup** tab, click the **Desktop** subtab.

1. Select your desktop language from the **Language** list.
   - The default language of eLux NG screen elements (tabs, lists, etc.) is English.
   - The eLux NG screen elements themselves can only be displayed in English or German. However, your country's language must be set for local applications to work correctly.
2. Click **Background color** to set the eLux NG desktop background color.
3. Although eLux NG is mouse-based, several keyboard commands are important. The **Task hotkey** drop-down list allows you to choose the key combination to switch between current open sessions, or "tasks." You can use this not only to switch between applications, such as between an XTerm and an ICA application, but also between eLux NG screens, such as the main eLux NG screen and a dialog box. Default is CTRL + ALT + <*cursor*>.

   CTRL + ALT + ↓: Left selection in the Applications bar

   CTRL + ALT + ↑: Right selection in the Applications bar
4. Click **Apply** and then **Yes** in the **eLux NG Starter** dialog box.

⇨ To set the date and time

From the **Setup** tab, click the **Desktop** subtab.

1. Select your time zone from the **Time zone** list.
   - eLux NG adjusts for daylight savings time automatically.
2. There are two ways to set the time:
   - Manually: Enter the date and time and click Adjust to update the settings.
   - Automatically: (recommended) Enter a time server. Settings are retrieved when the Thin Client boots. For technical requirements, see the section "3.3.1 Time Server" below.
3. Click **Apply** and then **Yes** in the **eLux NG Starter** dialog box.

3.3.1 Time Server

In addition to time zone, the time must be set on the Thin Client for proper use. This can, of course, be done by filling in the date and time fields as described above. However, due to its better accuracy we recommend using a time server.

You have the option of entering a time server running on either a UNIX or Windows machine.

Synchronizing the time with the time server may now be done online by clicking the button “Synchronize” in the Desktop tab. Up to V1.23 the time leveling was performed by a restart, only.

Note Please read the entire section for a complete overview of all possibilities!

Windows

Enter the IP address or name of a computer running Windows 2000 (or later).

If you select this option, the time server must conform to Simple Network Time Protocol as described in RFC 1305. The Windows Time Service (W32Time), which is installed by default on computers running Windows 2000 or later, is SNTPv4 compliant.

The W32Time service starts automatically on computers that are joined to an Active Directory domain. For computers that are not joined to a domain, you must start the time service manually.

The Windows NT time service does not support SNTP. To use NT, you must install third-party software. See the following section “Unix” for more information.

For more information on SNTP, see the Knowledge Base article 224799 (“Basic Operation of the Windows Time Service”), 216734 (“How to Configure an Authoritative Time Server in Windows 2000”) or the white paper “Windows Time Service” (http://www.microsoft.com/windows2000/docs/wintimeserv.doc).

The forerunner of SNTP is Network Time Protocol as described in RFC 1305. The two protocols are interchangeable. Thus, you can alternatively enter an NTP-compliant machine. Many UNIX servers have xntpd, which is NTP compliant. The service must be started.

For more information on NTP, see www.ntp.org.

This service operates on port 123 with the UDP protocol.

Unix

Enter the IP address or name of a UNIX machine running a RFC 868 time service.

If you select this option, the time server must conform to Internet standard RFC 868 (“Time protocol”). This type of time service is a standard component on UNIX machines as an internal service of inetd. It can be activated in the file /etc/inetd.conf.

There are several products on the market that allow you to install a time server conform to RFC 868 on a Windows machine, for example, the free time server for Windows NT from Roberson Computer Consulting, Inc., available at www.rccinc.com.

The service operates on port 37 with the TCP and UDP protocols.

For more information on RFC 868, see www.faqs.org.

Note It is also possible to set the system time directly in the Thin Client’s BIOS Setup. Due to inconvenience, this is not recommended. However, the procedure is described in the appendix.

3.3.2 Desktop Themes

Users of eLux 1.1 will be delighted to learn that eLux NG offers a new desktop with a whole new range of features.

To use this feature, you must have the “Desktop themes” (themes) package installed.

You can change the appearance of the taskbar, dialog boxes and menus. In the **Desktop** tab click **Advanced**. Choose from the predefined colors and fonts in the drop-down list **Theme**.

3.3.3 Taskbar

Users of eLux 1.1 will be delighted to learn that eLux NG offers a new taskbar with a whole new range of features.

In the **Desktop** tab click **Advanced**. Here you can set the taskbar options (“Always on top”, “Hide automatically”) or blend out the taskbar by deselecting the **Taskbar** check box. In addition, you can choose to blend out the clock.

3.3.4 Background Image

Users of eLux 1.1 will be delighted to learn that eLux NG offers a variety of ways to customize the desktop, including installing a background image.

The background image must match the resolution setting of the monitor. Supported formats include: JPEG, PNG or GIF. eLux NG does not support wallpaper or tiled images. There must be enough space on the Thin Client (saved to `/setup` on the flash card).

The background image is transferred using the management tool Scout Enterprise. For more information, please see the *Scout Enterprise Administrator’s Guide*.

3.3.5 Starter

Users of eLux 1.1 will be delighted to learn that eLux NG offers a new starter with a whole new range of features.

By default, the starter runs automatically when the devices starts. To deactivate this feature, in the **Desktop** tab click **Advanced**. Deselect the **Starter** check box. You can run the starter from the eLux desktop at any time by clicking the Run starter button in the taskbar or using the hotkey CTRL-<Win key>.

3.3.6 Workspaces

Users of eLux 1.1 will be delighted to learn that workspaces have been integrated into eLux NG.

In the **Desktop** tab click **Advanced**. Select the desired number of workspaces from the **Number** list. Default is one.

The new functionality of the “eLux NG desktop” – taskbar, starter and workspaces – is discussed in detail in Appendix 1: Desktop.

3.4 Screen

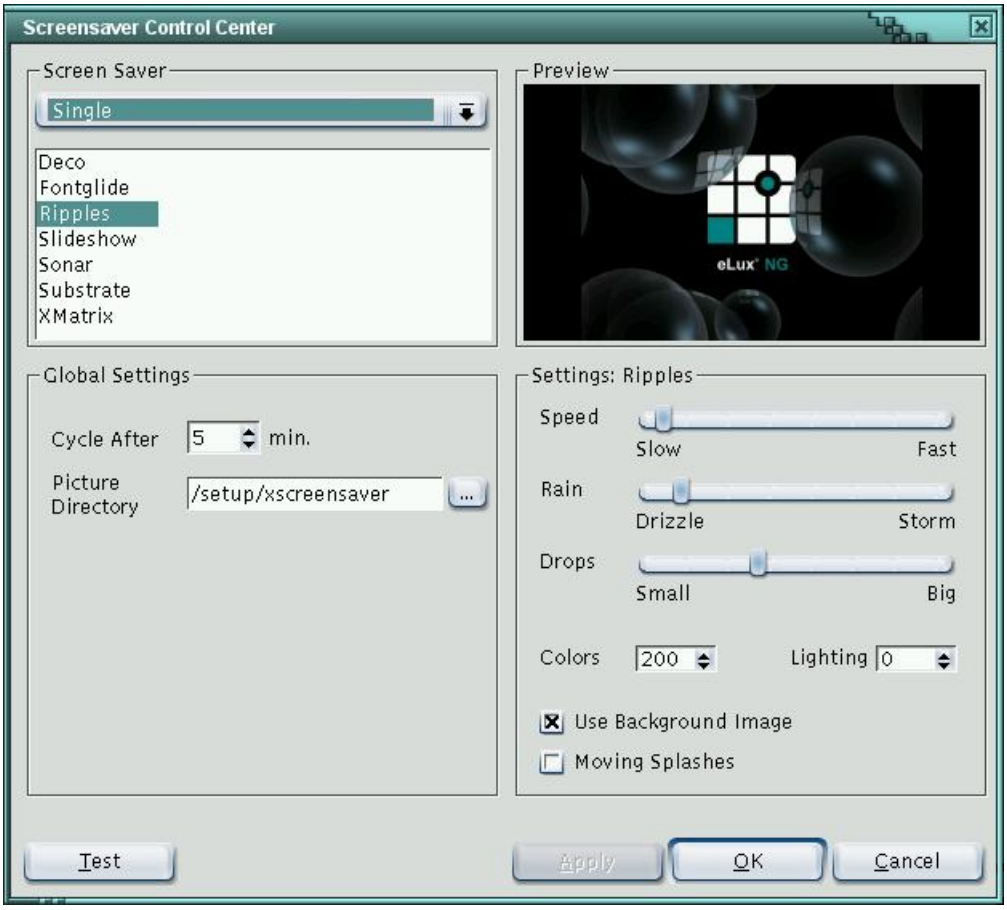
Figure 21: Setup > Screen

⇨ To modify the screen settings

From the **Setup** tab, click the **Screen** subtab.

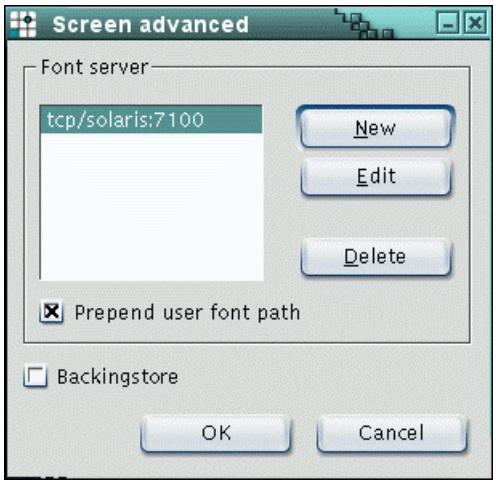
1. Select your monitor resolution, frequency and color depth.
   Note: The higher the resolution and color settings, the greater the amount of main memory that is used. The number of applications that can be used simultaneously is limited by system resources. See Appendix 2: Memory Usage
2. (optional) Power save is an energy saving feature that shuts the monitor off after a specified idle time. Moving the mouse or pressing a keyboard character activates the monitor again. Enter a screen shutdown time (in minutes) in **Power save after**.
3. (optional) Enter a delay time for the **screen saver**. You can restart the monitor by pressing a key or moving the mouse. Provided that the eLux software packages “userauth” and “xscreen” have been installed and the authentication server is active (see 3.7.4 User Authorization) you can define in the screen setup whether the screen saver is to be locked. To unlock the screen saver you have to enter your logon password.

4. In **Setup** > **Screen** click **Advanced**. This leads you to the advanced settings of the screensaver. Please consider that this option is only available when the „**xscreensaver**“ package has been installed. The figure below shows the settings.



5. Click **Apply** and **OK** in the **eLux NG Starter** dialog box regarding restart.

⇨ To modify advanced screen settings



Backing store is not supported by all hardware platforms.

From the **Setup** > **Screen** subtab, click **Advanced**.

1. **Backing store**: Saves screen information to the local X11 server on the thin client. When this option is active, a copy of the application window is stored in an off-screen pixel buffer. When hidden sections of overlapping application windows are redrawn, the sections are copied from this buffer rather than fetched from the server. This increases the screen refresh speed when the network connection is slow (especially noticeable by ISDN); however, the main memory requirements are large (128 MB or higher).
2. **Font server**: If your network has an X11 font server, you can use it to access fonts. The font server will be available in both the eLux NG desktop and XDMCP sessions. Click **New** in the **Screen advanced** dialog box.

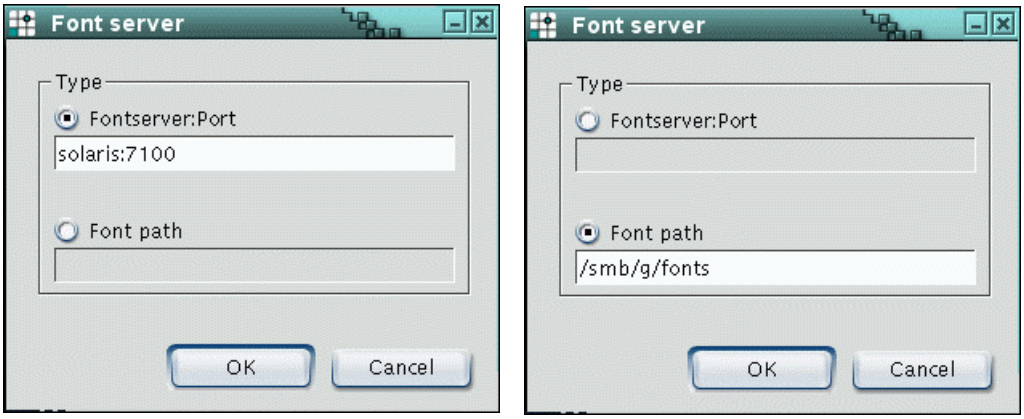


Figure 22: Define font server dialog box

- Either click **Font server:Port** and enter the IP address (or name) of the font server and the port number, separated by a colon.

  Example: `office:7100`

  or

- Click **Font path** and enter the font path. (Font paths are usually accessed via Samba or Network File System (NFS) drives. Ask your administrator for the correct path.)

  Example: `/smb/g/fonts`

3. Click **OK** in the **Font server** dialog box. If the information you entered is valid, the dialog box closes. If it is invalid, an error message appears. Correct the information and click **OK**.
4. By default, local fonts have precedence. Select **Prepend user font path** to give the font server/path you just entered precedence.

3.4.1 Safe Boot

Default screen settings are set to values all monitors support. If after configuring the Thin Client you have massive screen distortion, resolution, frequency and color depth are most likely set to values your monitor does not support. In this case, switch off your monitor to avoid damage. Start the Thin Client in Safe Boot mode. Safe Boot allows you start the terminal in a mode which does not damage hardware. You can then correct screen settings.

See section 5.2 Safe Boot.

3.5 Mouse / Keyboard

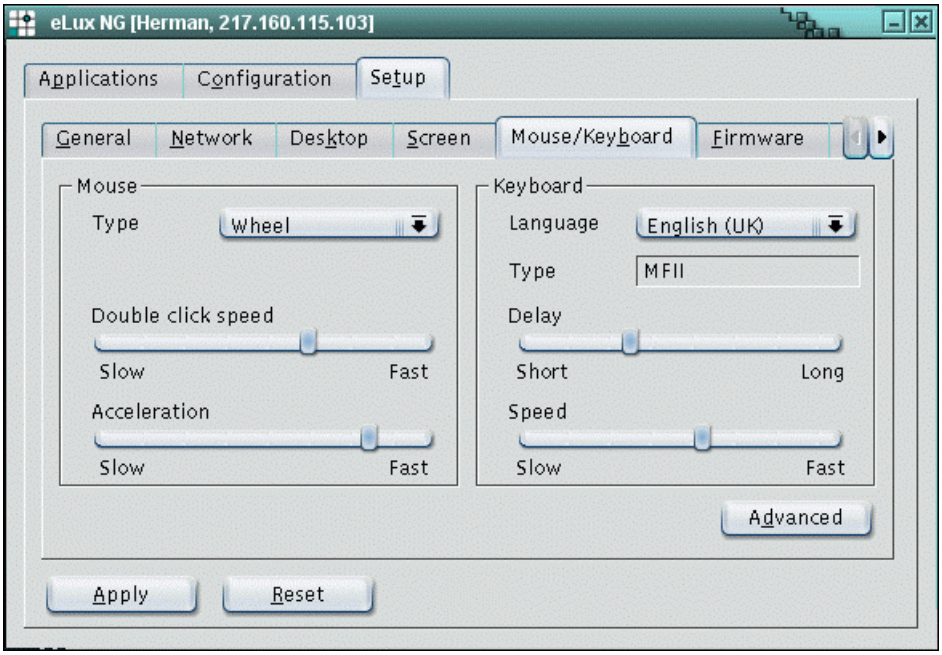


Figure 23: Setup > Mouse / Keyboard

⇨ To modify standard mouse / keyboard settings

From the **Setup** tab, click the **Mouse / Keyboard** subtab.

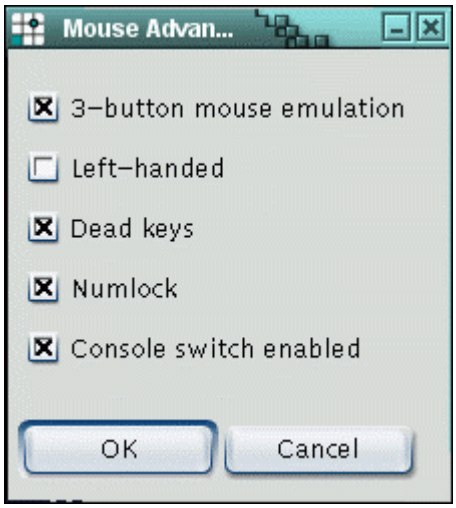
1. Here you can set the mouse settings.
   - **Type** Click to select your mouse type from the drop-down list.
   - **Auto** Automatically detect the mouse type. Default setting.
   - **2 button** Two-button mouse
   - **3 button** Three-button mouse
   - **Wheel** To enable the wheel function of a mouse
   - **No mouse** Deactivates the mouse functionality. The mouse pointer is fixed in the lower right-hand corner of the screen. To reactivate mouse functionality you must go into the **Mouse / Keyboard** tab using the keyboard and change this setting: ALT+<*underlined letter*> allows you to jump from tab to tab, TAB key allows you to move within a tab, and UP/DOWN arrow keys allow you to select the mouse type from the drop-down list.
   - Double **click speed** Move the slider to the right to shorten the interval between mouse double-clicks.
   - Acceleration Move the slider to the right to increase the mouse drag speed.

2. Here you can set the keyboard settings.
   - **Language** Click to select your keyboard language from the drop-down list.
   - The default is English (US).
   - **Delay** The initial delay before a symbol appears when a key is pressed and held.
   - **Speed** The repeat speed when a key is pressed and held.
3. Click **Apply** in **Mouse / Keyboard** subtab and **Yes** in the **eLux NG Starter** dialog box.

Keyboard types are automatically recognized when they are plugged in. No further configuration is necessary. For a list of supported keyboards, see “Appendix 6: Supported Hardware.”

When configuring a Microsoft application via ICA, if you wish to use the Windows default option which moves the mouse pointer to the default button in a dialog box, you must set the mouse type to two button or three button (the wheel function will not be supported). This setting is not required for Microsoft Remote Desktop Protocol (RDP).

3.5.1 Advanced Mouse and Keyboard Settings



From the **Setup** > **Mouse / Keyboard** subtab, click **Advanced**. Here you can configure the following advanced settings:

- 3-button mouse emulation

  In general, eLux NG is used with a three button mouse. However, it is possible to achieve the same functionality with a two button mouse. In this case, the third button is simulated by clicking the left and right mouse buttons at the same time. Select to activate this feature. By default it is not active.

- Left-handed

  Select to switch the mouse buttons. By default it is not active.

- Dead keys

  “Dead keys” make it possible to entered accented combination characters. A dead key combination means that you press two keys one after the other (press the first key and release it, then press the second key and release it) in order to form a single character. In general, you press a key for the accent you want (nothing happens), then a key for the letter to apply to accent to (the accented combination character appears).

  For example, pressing “`” on the U.S. international keyboard produces nothing, but subsequently typing “e” produces “è”. Other keyboard layouts may produce accented characters in other ways (on the French keyboard there is a key that produces “è” directly).

  By default, dead keys are active. If you use an application that is incompatible with dead keys, click to deselect.

Note: Some hardware platforms do not offer this option. In this case, it is not possible to deactivate dead keys.

- Numlock

  Select to activate the NUM key when the Thin Client boots. By default, it is active.

- Console switch enabled

  Allows the user to switch between consoles (“virtual screens”) on the Thin Client using the hotkeys. By default, it is active. For information on consoles, see “3.5.2 Consoles.”

Click **OK** in the **Mouse Advanced** dialog box.

3.5.2 Consoles

eLux NG provides access to virtual consoles, which allow you to have more than one logon session at a time:

- Console 1: eLux NG desktop

  This is the console you see when you boot the terminal. Here is where the user runs terminal server sessions, SAP sessions, local browser sessions, configures the eLux NG starter, etc. You can have multiple windows and multiple workspaces open. This is the default console.

- Console 2: First XDMCP session

  The first XDMCP session, if one is running.

- Console 3: Second XDMCP session

  The second XDMCP session, if one is running.

- Console 4: Message console

  A text console that displays kernel messages and scripts. Useful for troubleshooting.

Up to two XDM sessions at a time are possible. By default, an XDMCP session runs in a separate console. However, you can configure XDMCP sessions to run as a normal window in console 1. For information on configuring XDMCP sessions, see “4.7.5 XDMCP.”

To switch consoles, press the appropriate hotkey. A list is provided in Figure 24. These hotkeys can be deactivated, restricting the user to the eLux NG desktop (console 1). See “3.5 Mouse / Keyboard.”

No.	Console	Hotkey
1	eLux NG desktop	CTRL + ALT + F1
2	First XDMCP session	CTRL + ALT + F2
3	Second XDMCP session	CTRL + ALT + F3
4	Message console	CTRL + ALT + F4

Figure 24: Hotkeys for switching consoles

3.6 Firmware

To update terminal firmware, you need a new image definition file (IDF) (the name of the file may be the same). The new IDF is created using the software "ELIAS NG." For information on how to create an IDF, see the *ELIAS NG Administrator's Guide* or the *Scout Enterprise Administrator's Guide*.

This new IDF may reside on an FTP/HTTP server, CD-ROM or USB stick. The image file **must** reside in the same directory as the software packages (that is, in the container)!

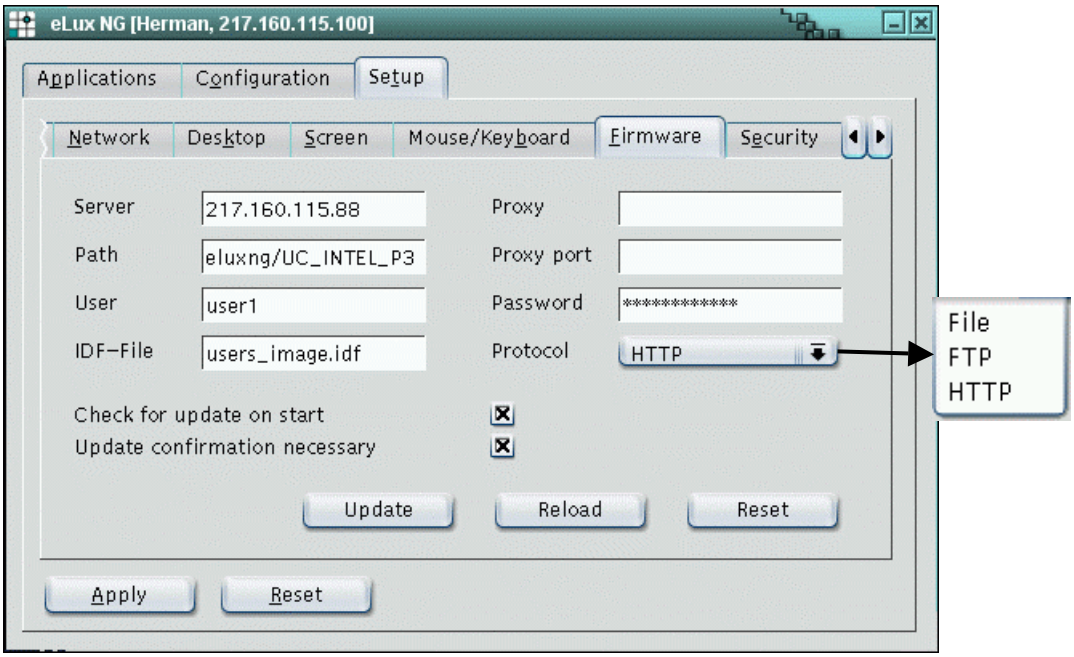


Figure 25: Setup > Firmware

3.6.1 Updating over the Network (Base OS)

Packages and the base OS can be updated over the network.

To update over the network, do the following:

1. From the **Setup** tab, click the **Firmware** subtab.
2. Enter the IP address or name of the update server in the **Server** field.
3. Enter the name of the new IDF file in the **IDF-File** field and the directory where it is located in the **Path** field.
4. In the **Protocol** area select:
   - **HTTP** if the update server is an HTTP server. Enter the proxy IP address or name, and the proxy port number, if used (optional). To use Microsoft Internet Information server 6.0, you must define several new MIME types. See the section ""3.6.4 Microsoft Internet Information Server."
   - **FTP** if the update server is an FTP server.
   - Enter the username and password for the server in the **User** and **Password** fields.
   - If no username or password is defined for the server, the entries are arbitrary. Use `elux` as the password and username. Do not leave blank.
   - We recommend you access the FTP server using a user account. However, "anonymous" FTP is supported.
5. Click **Apply**.

3.6.2 Package Update from a CD-ROM or USB Stick

Packages can be updated locally. The base OS must be updated over network. For more information on network update, see ”3.6.1 Updating over the Network (Base OS).”

To perform an update locally you need direct file access to a container on a USB stick or a CD drive. It is not possible to perform an update using Samba or Network File System (NFS). Update over floppy is not supported.

1. From the **Setup** tab, click the **Firmware** subtab.
2. In the **Protocol** area select **File**.
3. Enter the name of the new IDF file in the **IDF-File** field.
4. In the **Path** field enter `/misc/cdrom` to access an internal CD drive (IDE) or `/misc/USB[0…7]` to access a USB stick or USB CD drive. See section “3.9.5 Mount points.” Enter the subdirectory of the image definition file, if required. Example: `/misc/usb0/eluxng/`*<container name>*
   Note: If you used the standard container name, you can enter the Container macro.
5. Click **Apply**.

The following restrictions apply for update via file:

1. Both the current IDF and the update IDF must contain the base OS FPM “Drive Support”. See Figure 26.
2. **USB** must be activated in the **Hardware** Tab.

3.6.2.1 Required Firmware

Required firmware for an update via file is the base OS FPM “Drive Support.” This firmware allows the terminal to access the USB drive, so it must be installed on the terminal before performing an update via USB drive. In addition, the new IDF must likewise contain this firmware, otherwise it will be removed during the update and the process will hang.

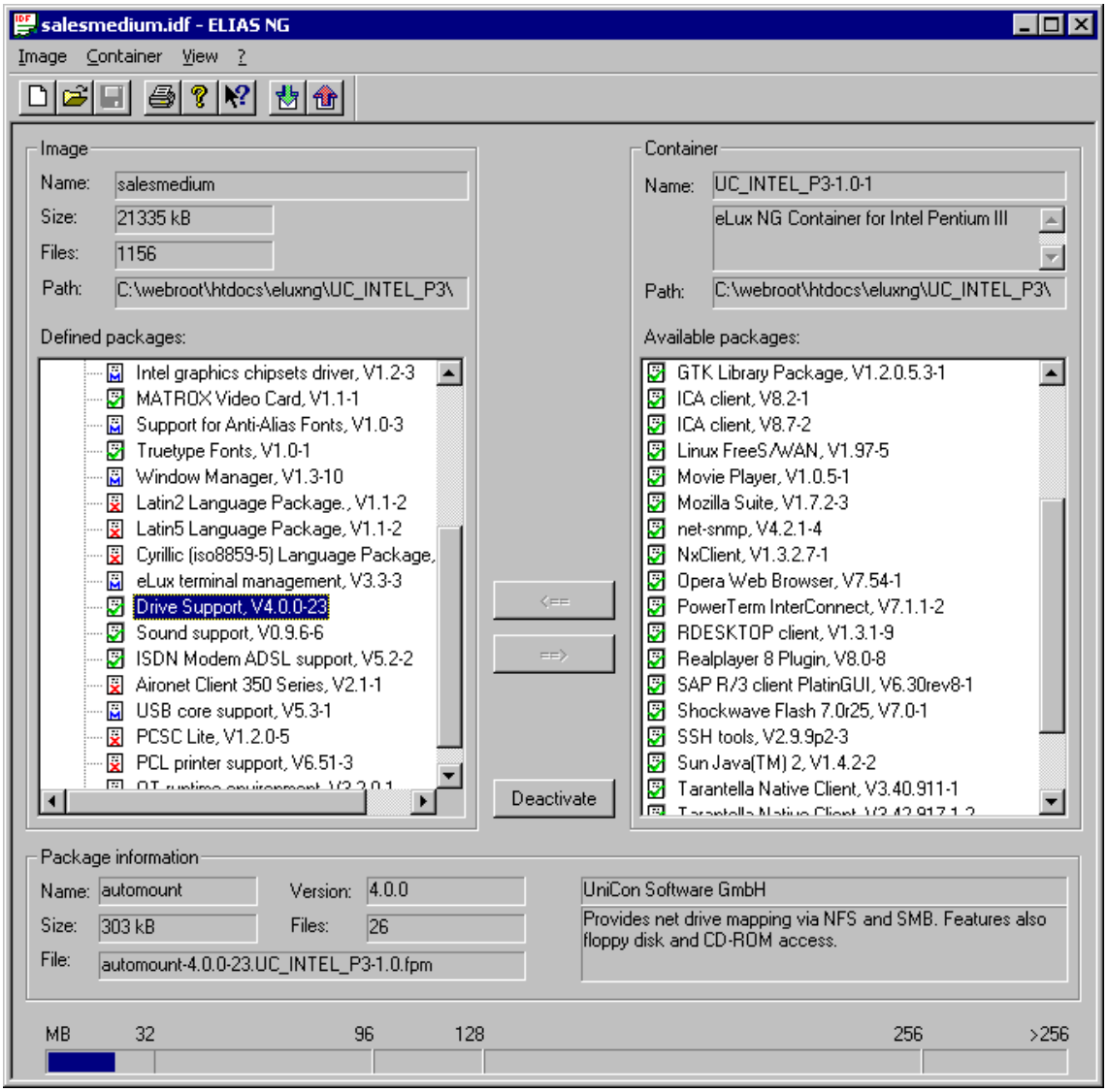


Figure 26: Required base OS FPMs

The right to use the image builder tool ELIAS NG software is included in the eLux NG license. There is no additional charge. It is used to edit the IDFs for updating firmware on Thin Clients and can be downloaded from www.myelux.com. Its use is beyond the scope of this document. For more information on ELIAS NG functionality and editing IDFs, as well as terminology such as “FPM”, see the *ELIAS NG Administrator’s Guide* or the *Scout Enterprise Administrator’s Guide*.

3.6.2.2 Activating USB port

For security reasons, by default the USB port is deactivated. From the **Hardware** tab, click to activate the **USB mass storage devices** check box. Note that update over floppy is not supported.

3.6.3 Starting an update

1. From the **Setup** tab, click the **Firmware** subtab.
2. Select the **Click for update on boot** check box to check for an update when the Thin Client boots.
3. Select the **Update confirmation necessary** check box for a confirmation message to appear before an update takes place. If you click on **Details** in this confirmation box, the packages that will be installed/removed are displayed.
4. Click **Apply** to save your changes.
5. Click **Update** to perform a recovery immediately.

During an update, eLux NG compares the software on the Thin Client to the software in the image definition file. If they differ, an update is performed. (The name of the IDF is irrelevant, because it is the contents that are examined.)

Warning Never switch off the Thin Client during an update procedure! This can destroy the image and the terminal will no longer boot. In this case, contact your system administrator and perform a recovery (see chapter “6 Recovery Installation”).

The following two sections describe buttons that are in the **Firmware** tab, but do not directly relate to a firmware update.

If the update cannot be performed, the reason is displayed in a dialog. In addition, you can click on **Details** to display the technical details.

3.6.4 Microsoft Internet Information Server

To update firmware or perform a recovery using Microsoft Internet Information Server (IIS), there is an additional step: The file extensions requested by eLux NG are not automatically transferred by IIS, but rather must be explicitly added to the MIME types. This is discussed in the Microsoft online help.

Note Entering the MIME types may not always be necessary. We recommend, however, that you add them when using IIS. For version 6.0 they are required.

1. Open the Internet Services Manager (**Start** > **Administrative Tools** > **Internet Information Services (IIS) Manager**).
2. Expand the branches until the Internet site is visible.
3. Click with the right mouse button on the Internet site and select **Properties**.

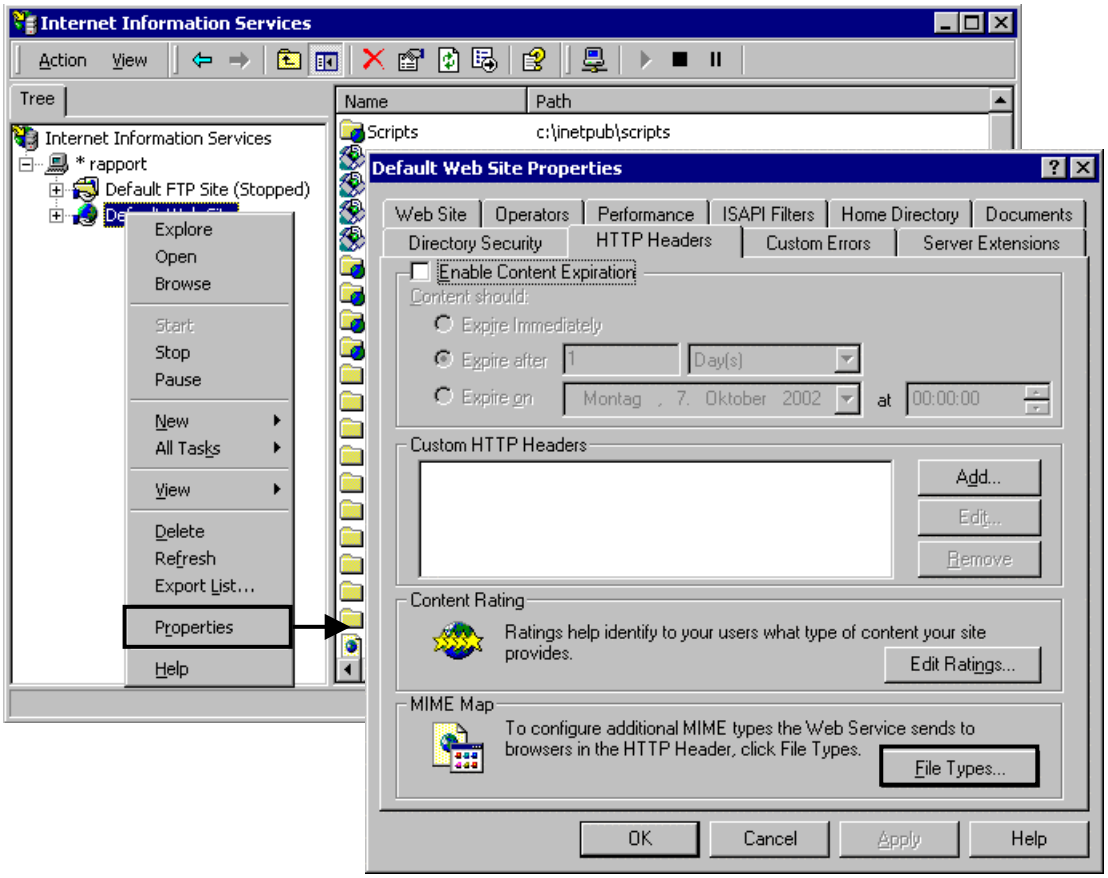
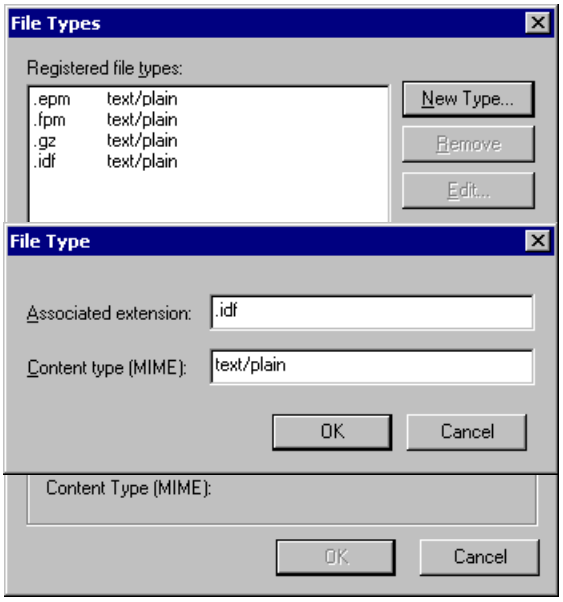


Figure 27: Microsoft Internet Information Services Manager

4. In the **Web Site Properties** dialog box go to the **HTTP header** tab. Click the button **File Types**.

5. In the **File Types** dialog box click **New Type** and enter `.idf`, `.fpm`, `.epm`, `.gz` as `text/plain`.



IIS is configured for an update/recovery.

3.6.5 Update Log

To view the update log, go to **Diagnostics** tab, click to select **System files**, and click **Execute**. Use the PAGE UP / PAGE DOWN keys to scroll. The update log is “eluxman.log”. For more information on the **Diagnostics** tab, see section “3.18 Diagnostics.”

3.6.6 To Reload the Configuration from Scout Enterprise

A Thin Client managed by the management tool Scout Enterprise receives its Setup configuration from the Scout Enterprise server:

- the first time it is entered in the Scout Enterprise software
- when the Thin Client starts

However, the Setup configuration is loaded when the Thin Client starts only if a change is registered in the Scout Enterprise server. This takes place when the administrator makes a change to the Setup configuration using Scout Enterprise. If the administrator makes no change, the Setup configuration is not loaded when the Thin Client starts. The Thin Client uses the previously saved configuration instead.

To force the Setup configuration to reload, click the **Reload** button. The Thin Client contacts the Scout Enterprise server and loads the configuration, regardless of whether there has been a change registered with the Scout Enterprise server.

Note: You must be managed.

For more information on the management tool Scout Enterprise, see the *Scout Enterprise Administrator’s Guide*.

3.6.7 Resetting the Thin Client to Factory-Delivered Default Settings

The **Reset** button overwrites the eLux NG configuration and with the factory default setting and deletes all defined application. For information on the **Reset** button, see “5.3 Factory Reset.”

3.7 Security

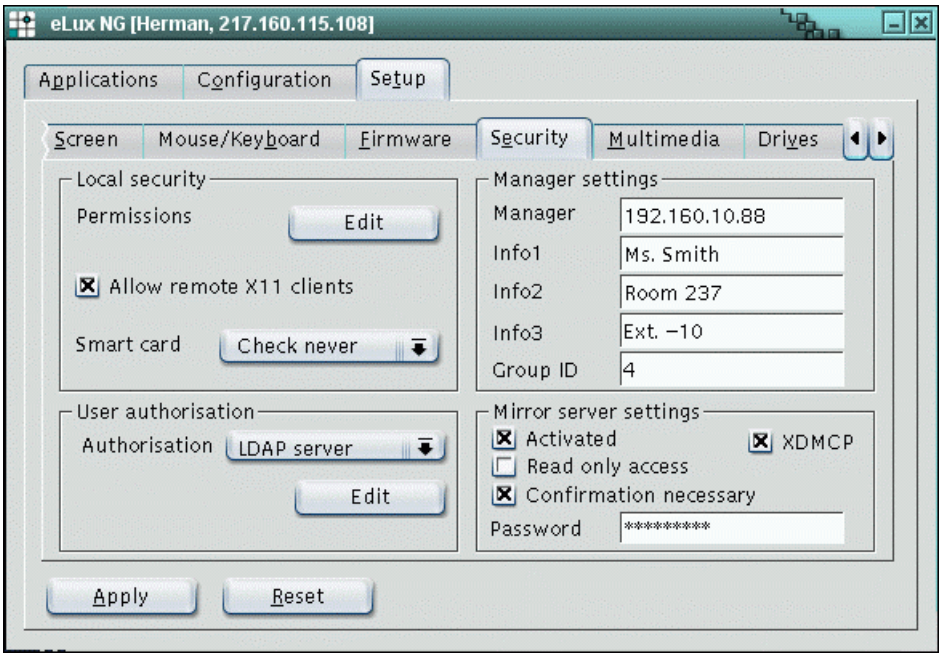


Figure 28: Setup > Security

⇨ To modify security settings

From the **Setup** tab, click the **Security** subtab.

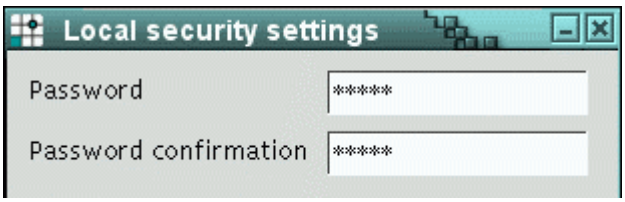
By default, the user has access to the **Setup** and **Configuration** tabs. In the **Security** subtab you can and set user rights and restrict access.

eLux NG mirroring settings (“3.16 Mirroring”) are discussed in a different chapter.

3.7.1 Device Password

The device password is very powerful, as it gives administrator rights for the Thin Client. It is required for various functions, such as entering the Thin Client in the Scout Enterprise management software (see the *Scout Enterprise Administrator’s Guide*, “Client Discovery”), etc.

To change the Thin Client password, from the **Security** subtab, click “Local security” > **Permissions** > **Edit**. In the **Local security settings** dialog box, enter the new password twice. The password upon delivery is `elux`.



Warning Do not forget the Thin Client password! The only way to recover a lost Thin Client password is to do a Recovery Installation. This deletes the configuration and defined applications and resets the Thin Client password to `elux`. See chapter “6 Recovery Installation.”

3.7.2 Local Security Settings

It is possible to set user rights for the Thin Client. This section describes how to restrict the access the user has to the configuration settings.

⇨ To set user rights

From the **Security** subtab, click “Local security” > **Permissions** > **Edit**. In the **Local security settings** dialog box you can set user rights. The configuration parameters are displayed in a branching tree-like structure. Upon restart, the user can only access the functions that you enabled.

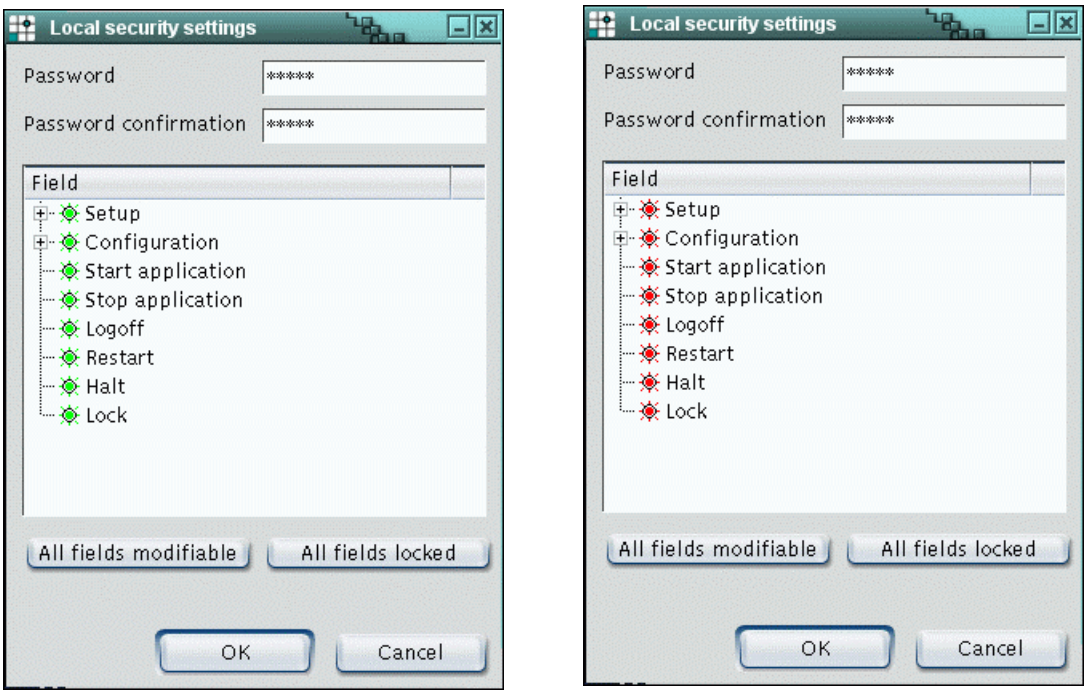


Figure 29: Examples of “All fields modifiable” (left) and “All fields locked” (right)

1. **All fields modifiable** Click to enable local configuration of all fields. The color green indicates that a field is unlocked.
2. **All fields locked** Click to disable local configuration of all fields. The color red indicates that a field is locked.

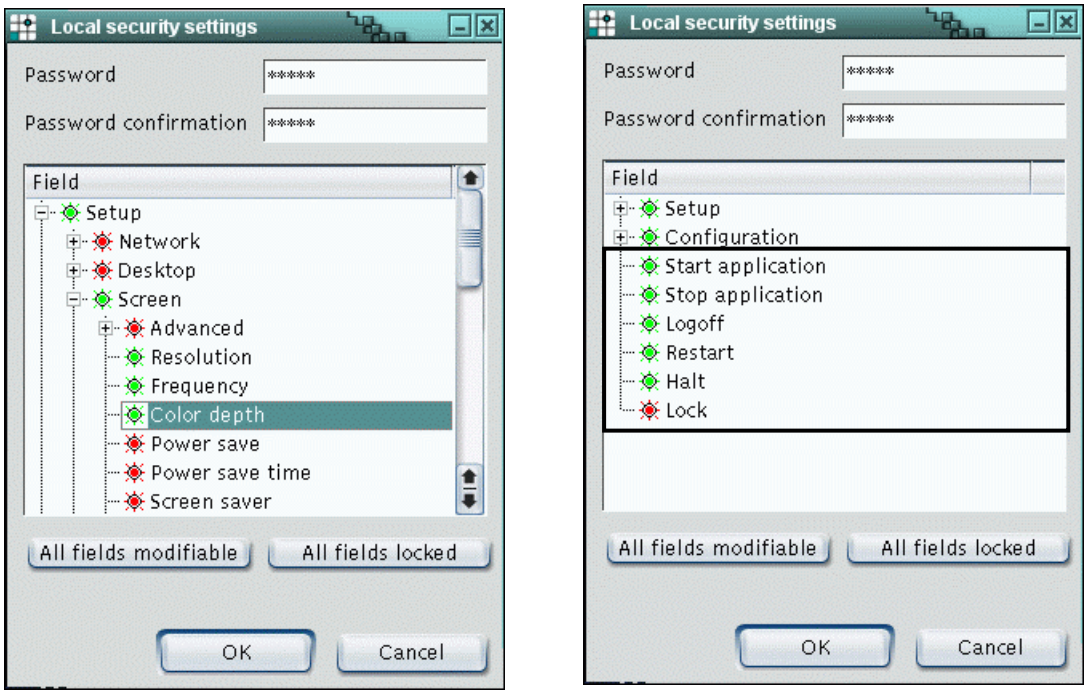


Figure 30: Examples of fields in the Setup tab (left) and Applications tab (right)

The configuration parameters are displayed in a tree-like structure. Click the plus to expand the element. Click the minus to collapse the element. Double click with the left mouse button (keyboard equivalent: space bar) to change a field's status: red = locked, green = unlocked (local configuration allowed).

3. **Setup** To allow users to access the **Setup** tab and modify user settings, expand "Setup" and set the desired fields to green.
4. **Configuration** Allows you to restrict local access to the **Configuration** tab and local access to application profiles.
5. The remaining top-level parameters refer to options in the **Applications** tab (see Figure 30, right).
   - **Start application** and **Stop application** refer to the "Connect" and "Disconnect" options.
   - **Logoff**, **Restart**, **Halt** and **Lock** refer to the shutdown options.
6. When you are done configuring local access, click **OK** in the **Local security settings** dialog box and **Apply** in the **Security** subtab.

In addition, the option "Allow remote X11 clients" in the **Security** tab allows remote X11 clients to connect to the local Thin Client.

The following figure shows an example of the eLux NG starter with restricted access.

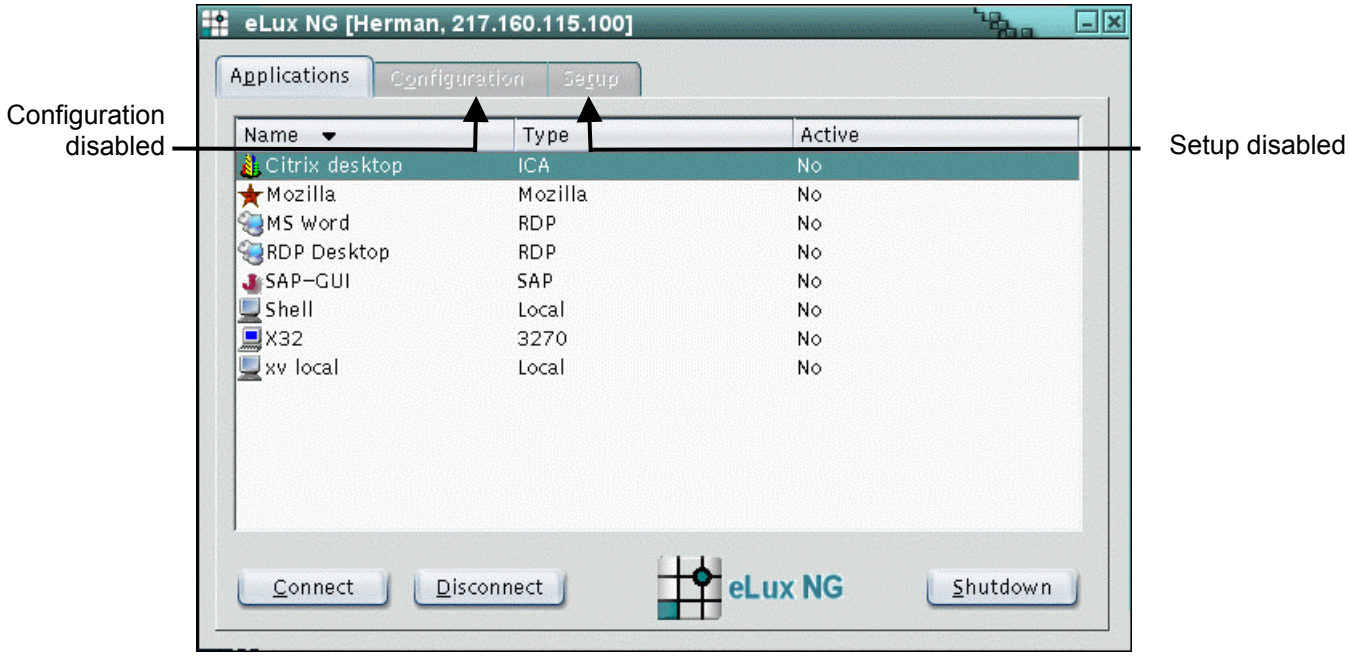


Figure 31: eLux NG screen with security settings - Configuration and Setup tabs disabled

3.7.3 Authorization Hotkey

The default user “LocalLogin" is the local device administrator. The password for “LocalLogin” is the Thin Client password.

You can access **Setup** or **Configuration** from an account in which they are disabled using the so-called “terminal password authorization hotkey.”

⇨ To re-enable disabled settings

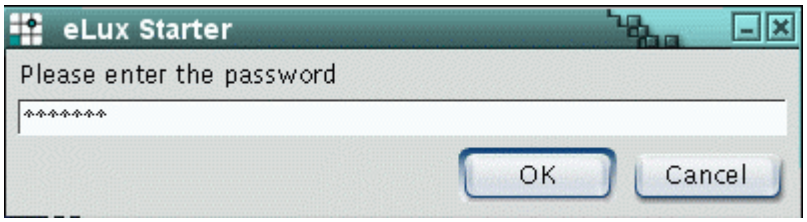


Figure 32: Device password hotkey dialog box

1. Select the eLux NG starter. Use the hotkey CTRL + ALT + HOME. The hotkey dialog box appears.
2. Enter the terminal password (= password of “LocalLogin”) and click **OK**.

   Note: The terminal password is “elux” by default. If you change the terminal password and forget it, to reset the password you must do a Recovery. See chapter “6 Recovery Installation.”
3. All settings are re-enabled. Click the **Settings** tab to make changes to settings.
4. To disable this access, click **Shut down** > **Log off** from the **Applications** tab.

You can also re-enable settings using the remote management tool Scout Enterprise.

3.7.4 User Authorization

Software Requirements

User authorization: “User authorization modules” (file name: “userauth”) EPM.

To test user variables: “LDAP search module” (file name: “usersearchldap”) FPM in “User authorization modules” EPM. By default, it is not activated.

For a description of EPMs and FPMs, see the *ELIAS NG Administrator’s Guide*.

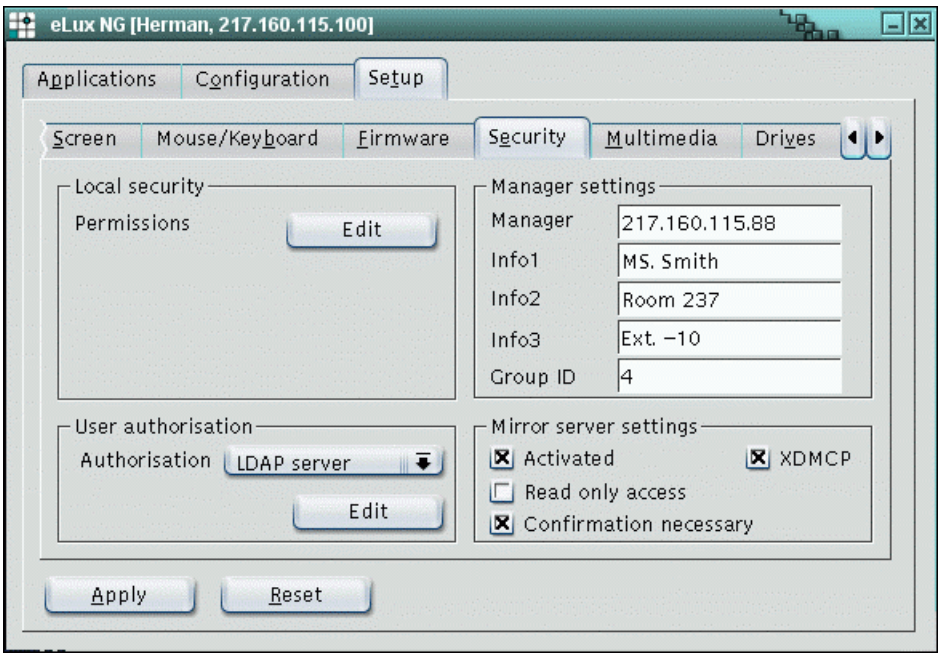


Figure 33 User Authorization

You can use an authorization server with eLux NG. Settings are made in the **Setup** > **Security** tab. Username and password are entered once at eLux NG start.

Note In this chapter, there are numerous configuration examples that include unusable IP addresses, passwords, and domain examples. Be sure to use your own IP addresses, passwords, and domains when configuring the authentication server settings.

⇨ To configure server authorization

Settings are made in the **Setup** > **Security** tab.

1. Under “Access authorization”, select the type of authorization server from the drop-down list:

   None: to disable user authorization

   LDAP server: for an LDAP server

   Windows NT/2000: for a Windows NT® 4.0 domain controller

   Active Directory Server: for an Active Directory Server (Windows 2000)
2. Further parameters are server specific.
3. Click **Edit**. The **Authorisation settings** dialog box appears.

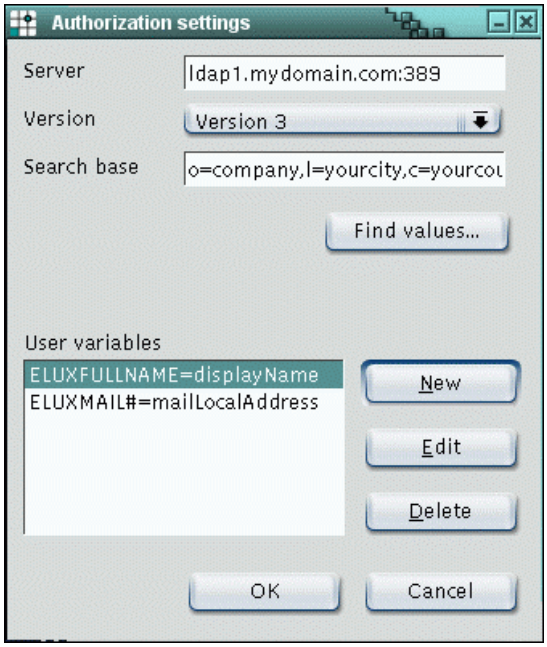
LDAP server: Light Directory Access Protocol is a TCP/IP-based protocol that defines a standard method for accessing directory services.

For authorization using an LDAP server, enter the following:

- **Server**: Enter the IP address/name of the LDAP server.
- **Version**: Select the LDAP version to use from the drop-down list

Click **Find values**. The Thin Client will search for the server and automatically fill in the **Search base** field.

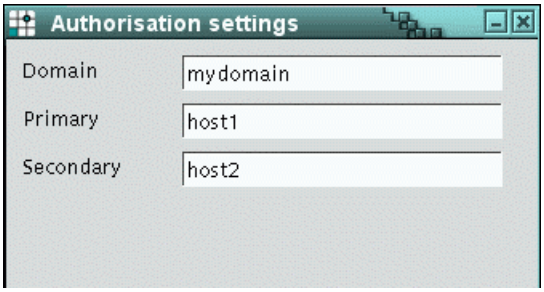
For information on user variables, see "User Variables" in this section.



Windows NT/2000: In a Windows NT domain the user accounts are administrated by a Primary Domain Controller (PDC). When a user logs on to the PDC, he or she is authenticated using the user database. User account information must no longer be entered on every workstation within the domain. User information must only be entered once. Due to redundancy, load sharing or optimizing WANs, user information can be replicated using a Backup Domain Controller (BDC). Authorization takes place using this server if the PDC cannot be reached.

For authentication using a Windows NT computer, enter the following parameters:

- **Domain**: Enter the NT domain.
- **Primary**: Enter the IP name of the Primary Domain Controller (PDC). Each domain has one and only one PDC. An IP address is not allowed.
- **Secondary**: Enter the IP name of the Backup Domain Controller (BDC). An IP address is not allowed. While a domain can have more than one BDC, only one entry is allowed.



The NetBIOS name of the PDC must be identical to the IP name. This is also true for the BDC.

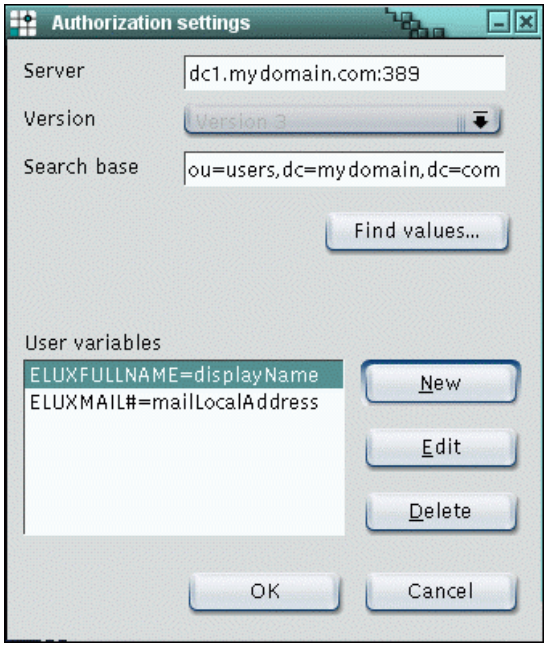
Active Directory Server: The directory service for Windows 2000 is called Active Directory. The structure is different from Windows NT: there are no longer PDCs and BDCs – they are given up in favor of a peer model, where all domain controllers (DC) in a Windows forest are equal.

For authorization using Active Directory, enter the following:

- **Server**: Enter the IP address/name of the domain controller.

Click **Find values**. The Thin Client will search for the server and automatically fill in the **Search base** field.

For information on user variables, see "User Variables" in this section.



4. Click **OK** and then **Apply** in the **Security** tab.

You must now enter a username and password when the Thin Client starts.

eLux NG supports changing the password (ADS only). When the password on the ADS server expires, the user will be requested to enter a new password in the logon dialog box.

If you have entered incorrect directory service settings, use LocalLogin and the Thin Client password to log on to the Thin Client locally. You can then correct the settings by going to **Setup** > **Security**.

3.7.4.1 "Help! I'm locked out!"

If you activate directory services and settings are incorrect, you will be locked out. However, you can still log on to the Thin Client locally using the login name "LocalLogin" and the Thin Client password. You can then correct the settings by going to **Setup** > **Security**.

3.7.5 User Variables

Software Requirements

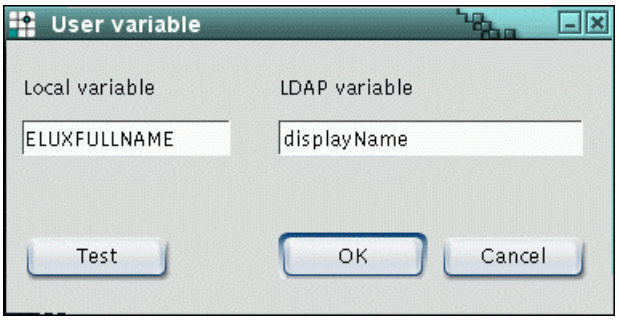
To test user variables: "LDAP search module" (file name: "usersearchldap") FPM in "User authorization modules" EPM. By default, it is not activated.

User variables are variables whose values are read from the authorization server when the Thin Client makes its authorization call. The variables can be used in certain fields in the eLux NG starter.

Preset variables are $ELUXUSER, $ELUXDOMAIN und $ELUXPASSWORD. They are automatically set when the Thin Client starts. When using LDAP or Active Directory Server as the authorization server, it is also possible to define your own user variables.

⇨ To set user variables

1. In the **Authorisation settings** dialog box for ADS or LDAP click on **Add**. The **User variable** dialog box appears.
   - **Local variable**: Enter a name for the variable. The name must begin with the prefix “ELUX” without the initial “$”.
     End with the “#” character to transfer more than one value, for example, ELUXMAIL#=mailLocalAddress. If more than one mail account address resides on the server, they will be transferred using the nomenclature ELUXMAIL_1, ELUXMAIL_2, etc. In this case, the variable ELUXMAIL_0 contains the number of mail addresses that were read.
   - **LDAP variable**: Enter the name of the attribute that the LDAP or Active Directory should assign the variable. As an example, the LDAP/Active Directory schema can contain the attribute “displayName”. If you assign this attribute to the variable ELUXFULLNAME, it will be assigned the value of this attribute during the next user authorization call.



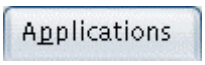
2. **Test**: The Thin Client attempts to retrieve the value for the attribute you entered from the authorization server.
3. Click **OK** in the **User variable** dialog box and **Apply** in the **Security** tab.

User variables can be entered in the eLux NG starter just like normal parameters. Enter each variable with the “$” character as prefix. For example, in an ICA application definition enter $ELUXUSER as the username. This variable will be replaced with the given username when the application is called.

3.7.5.1 Application Possibilities for User Variables

When user authorization is active, user variables can be used in the following fields in the eLux NG starter.

Applications Tab



Field	Function	User Variable
Shut down > **Lock**	Manual activation of the screen saver lock	Preset with the value of $ELUXPASSWORD

Setup Tab

Subtab	Field	User Variable
Drives	**Username**	$ELUXUSER,
	Password	$ELUXPASSWORD,
	Directory, Server, Share	Every $ELUX variable
	Browser home directory	Every $ELUX variable
Screen	**Screen saver password**	$ELUXPASSWORD

Configuration Tab

Subtab	Field	User Variable
ICA/RDP	**Server**	Every $ELUX variable
	User	$ELUXUSER
	Password	$ELUXPASSWORD
	Domain	$ELUXDOMAIN
Browser	**Proxy, Proxy port**	Every $ELUX variable
Tarantella	**Server**	Every $ELUX variable
Local > Customized Commands Application possibility: Programs that can be executed using the command line. Example: ..... `rdesktop -u $ELUXUSER -p $ELUXPASSWORD` <*machine*>		
	Parameter	Every $ELUX variable

3.7.6 Manager Settings

See “3.14 Remote Management.”

3.7.7 Mirroring Settings

See “3.16 Mirroring.”

3.8 Multimedia (Volume)

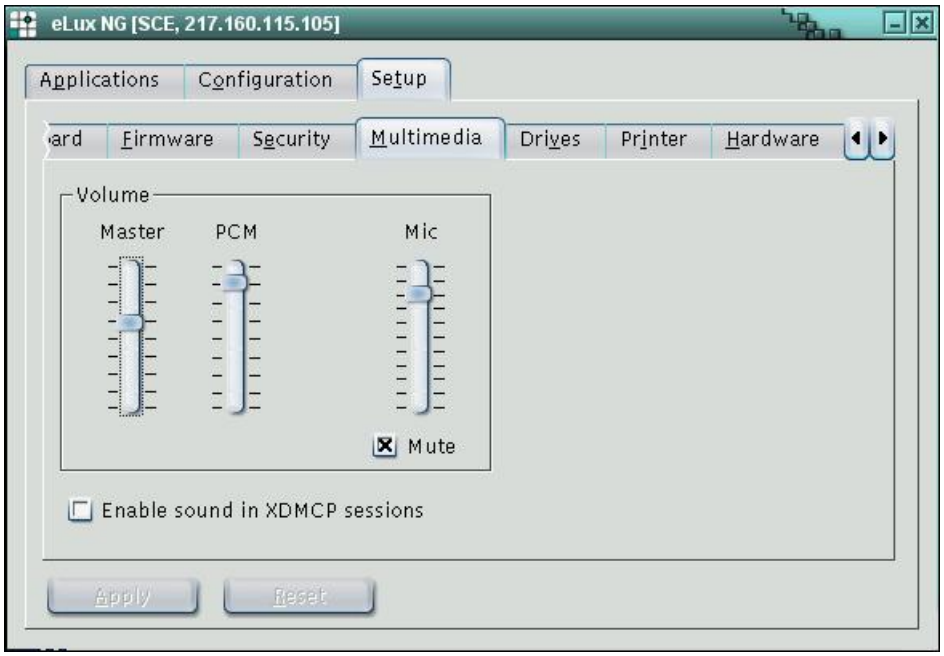


Figure 34: Setup > Multimedia

⇨ To adjust the volume

1. From the **Setup** tab, click the **Multimedia** subtab.
2. Move the slider to the right to increase the volume.
3. To enable sound in XDMCP sessions, click to select **Enable sound in XDMCP sessions**.
   Note: The application must be e-sound system compatible.
4. Click **Apply**.

3.9 Drives

eLux NG supports the following drives:

- Samba
- Network File System
- internal drives (CD-ROM, floppy)
- Universal Serial Bus

This section describes how to access the various drives.

Note The **Drives** tab is exclusively for mapping SMB drives! All other drive types are mapped automatically.

3.9.1 Samba

Samba is an implementation of the Session Message Block (SMB) protocol that allows Linux and Windows computers to share files and printers over the network. Network drives for a Windows NT or Samba server must be explicitly defined.

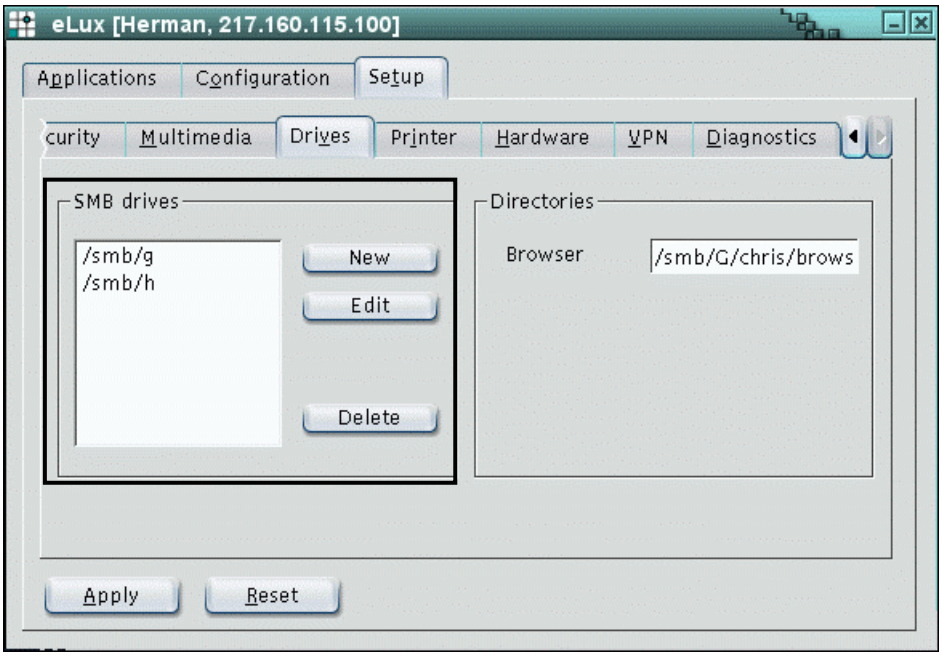


Figure 35: Setup > Drives

⇨ To set a network drive using NT or Samba server

From the **Setup** tab, click **Drives**.

1. Click the button **New**.
2. Fill in the fields in the **Define drives** dialog box:
   - **Local directory**: Enter the directory name.

     eLux NG automatically adds "/smb/" to the directory name. The data can then be accessed locally in the directory `/smb/<directory name>`. See section "3.9 Drives" for more information.
   - **Server**: Enter the name of the server.
   - **Share**: Enter the export name of the shared drive as defined on the Windows machine.
   - **Username, Password**: Enter your username and password on the server.

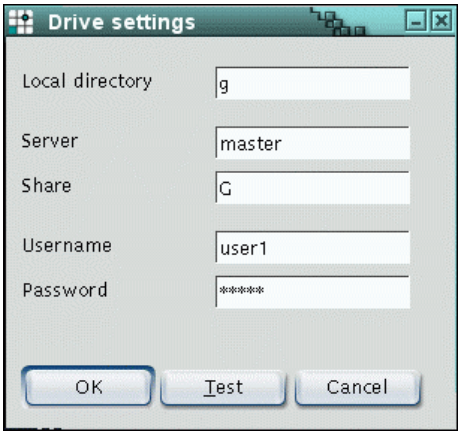


Figure 36: Define drives dialog box

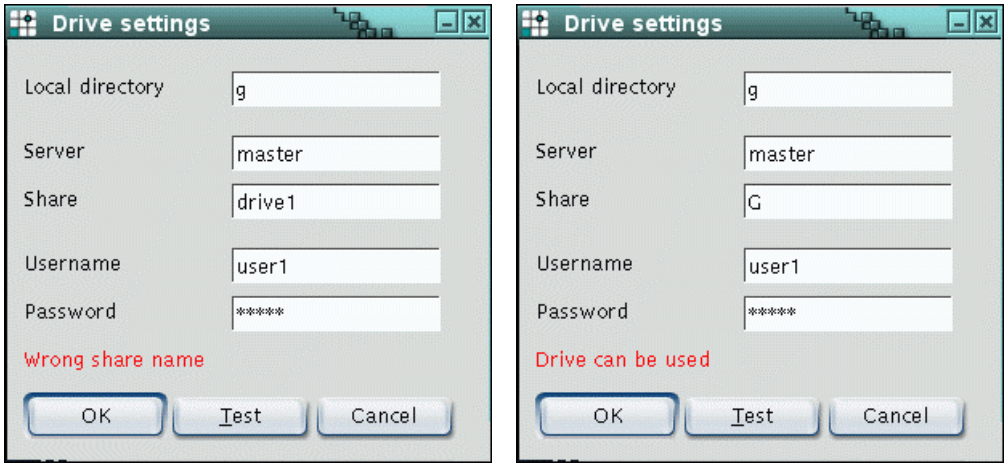


Figure 37: Results of the Test button in the Define drives dialog box

3. Click **Test**. If the drive can be used, the message “Drive can be used” appears. If the server cannot be located, the message “Server cannot be contacted” appears. Check your entries for validity.
4. Click **OK** in the **Define drives** dialog box. Click **Apply** in the **Drives** subtab and **Yes** in the **eLux NG Starter** dialog box.

Note It is particularly important to click **Apply** and **Yes** in the confirmation request dialog box to complete the mapping process.

3.9.2 Network File System

eLux NG comes equipped with NFS drive capability. No additional settings modifications are required.

To use a network drive shared via NFS, use the following format:

`/nfs/<`*hostname*`>`

or

`/nfs/<`*IP address*`>`

When the Thin Client accesses an NFS drive, all shared NFS directories on this host are displayed.

Warning All Thin Clients have access to the server as “nobody.” There is no privacy. Each client has the same access rights to the other clients’ files. Therefore, we strongly recommend that you permit write-protected drives only.

3.9.3 Internal Drives

If your hardware includes an internal (IDE) CD-ROM or floppy drive, you can access it without further configuration. It is also automatically mapped in a Citrix ICA session.

To access it locally, use the mount point. See section “3.9.5 Mount points.”

3.9.4 USB Drives

eLux NG supports the following USB peripherals:

- card readers
- network cards
- mass storage devices
- mouse / keyboard

More than one USB peripheral can be in use at the same time.

Due to security reasons, by default the USB port is disabled for mass storage devices (CD-ROM, floppy, USB stick, etc.). To enable this port, select the **USB mass storage devices** check box in the **Hardware** tab. To access the mass storage device locally, use the mount point. See section “3.9.5 Mount points.”

For more information on USB devices, see section “3.12.1 USB Devices.”

Mass storage devices

A pop-up message appears when a mass storage device is successfully connected to the Thin Client. Alternatively, click the **Show detected devices** button in the **Hardware** tab to see the currently connected USB devices.

Citrix ICA drive mapping

To access a mass storage device or handheld device from within a Citrix ICA session, it must be mapped. See section “4.2.5 Client Drive Mapping” for information on mapping client drives within a Citrix ICA session.

3.9.5 Mount points

eLux NG is Linux based. For this reason, to access a drive from a local application, you must use a prefix in your drive path. This prefix is the so-called “mount point.” The drive prefixes are:

Samba	/smb
NFS	/nfs
Internal floppy	/misc/floppy
Internal CD-ROM	/misc/cdrom
USB mass storage device	/misc/usb[0-7]

Your device may support up to eight USB mass storage devices, depending on your hardware platform. The mount points are distributed chronologically starting with `/misc/usb0`, that is, the first device to be connected receives the mount point `/misc/usb0`, the second device `/misc/usb1`, etc. For security reasons, the USB port must be activated before use (**Hardware** tab).

See section “4.2.5 Client Drive Mapping” for information on mapping client drives within a Citrix ICA session.

Example 1: Setting a browser home directory

To set the browser home directory to a network drive (see section “3.10 Browser Home Directory” for more details) in the **Hardware** tab > **Browser** field enter:

NFS drive: `/nfs/smith/browser`

Samba: `/smb/g/smith`

To use a network drive via Samba, the drive must already be defined in the **Drives** tab.

Example 2: Downloading to a network drive

A user wants to download a file from the Internet. The user is using the local browser Mozilla. The file is too large to save to the flash.

A solution is to save the file to a network drive. In our example, the target directory is the Samba network drive “g”.

In the **Save As** dialog > **File name** field, the user can either type the complete path including file name (`/smb/g/test.pdf`) or the user can type `/smb/`<*drive name*> (in our example = `/smb/g`) to view a list of subdirectories. The user can then choose the desired subdirectory.

The file download path is not the same as the browser home directory.

Example 3: Reading a PDF file from an internal CD-ROM drive

To use a local application to view a PDF document using an internal CD-ROM drive (IDE), install the Adobe® Acrobat® Reader and Mozilla software and start the browser. Insert a CD containing PDF files (in this example, the eLux NG CD) in the CD drive.

Start Mozilla. In the **Open File** dialog, enter `/misc` in the **File name** field. A list of mount points appears. Double-click on **cdrom** > **windows** > **docu** > **eng**. A list of available documentation folders is displayed.

Alternatively, you can use the local command

```
acroread /misc/cdrom/windows/docu/eng/elias/elias_manual_eng.pdf
```

from within a shell to open the file using the file directly using the Acrobat Reader software (you must know the complete path).

3.10 Browser Home Directory

All browser files are saved to the Thin Client’s local memory. The local folder `/tmp` is used for temporary files (cache, etc.) and the local folder `/setup/`<*browser*> is used for permanent files (history, bookmarks, etc.).

By definition, a Thin Client has very little available memory. For this reason, heavy surfing can use up the available local memory very quickly. When available memory is 5% or less, the user is plagued by recurring warning messages. There are two options: either the user restarts the terminal (the `/tmp` folder resides on a RAM disk and is deleted when the Thin Client is turned off) or the administrator must go to the terminal and delete the files by hand.

To avoid this inconvenience, you can use a network drive as the home directory for the browser. All browser files (cache, history, configuration, cookies, etc.) are saved to this directory, regardless of whether they are temporary files or not.

⇨ To set a browser home directory

1. From the **Setup** tab, click **Drives**.
2. Enter a netdrive path in the “Directories” > **Browser** field.

   You can use a network drive or a subdirectory on that drive.
   Example: `/smb/g/user/paul` or `/nfs/hal2001/users/paul`
   In the case of Samba, the drive must have been previously defined. (See “3.9 Drives”.)
3. Click **Apply**.

3.11 Printer

You can print from both local and network printers. In addition, other workstations or servers within the network can use a printer installed locally on your Thin Client, which supports LPR and TCP direct print. You can use eLux NG to configure and assign logical names to local printers, which can be used from within the network. If the printer name for the local or network printer is different from the preset “lp”, you must also configure it within in the local application, such as Mozilla.

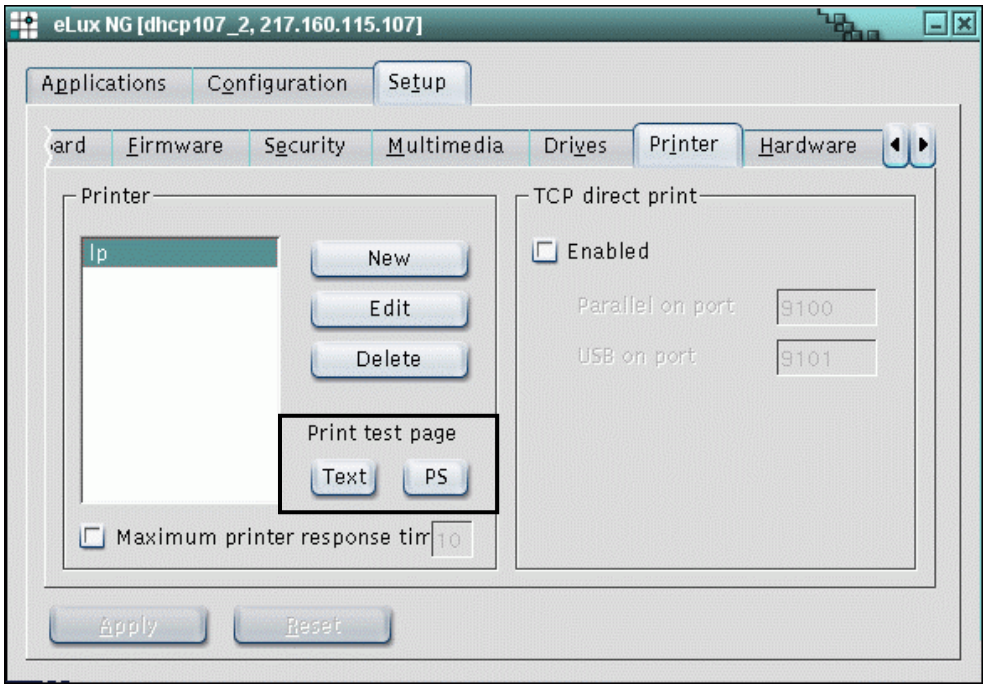


Figure 38: Setup > Printer

The printer attached locally to your Thin Client may be used by other machines if they support TCP direct print (for Windows: Windows 2000 and later). In this case, enter the port number of the local printer’s interface (parallel or USB) in the “TCP direct print” area.

For local applications that use PostScript® as the output format, such as Mozilla or Acrobat Plug-in, you must define a PostScript printer.

The **Maximum printer response time** allows you to set a time-out for a locally defined printer. If the printer is for any reason unavailable (paper out, cannot be reached, broken, etc.), the local application stops responding, or “hangs.” The print job will be terminated after this time-out, allowing you to resume using the local application.

With eLux NG V1.23 and higher you can print a test page in text format or PostScript format (see figure 38).

3.11.1 Local Printer

The default printer definition “lp” is preset to a local printer. This means you can attach a printer to the Thin Client parallel port and print without additional configuration (depending on your printer, you may need to activate the filter).

The main memory is used to buffer print data. The following describes how to configure a local printer.

⇨ To configure a local printer

1. Connect a printer to the parallel, serial or USB port of the Thin Client.
2. From the **Setup** tab, click the **Printer** subtab.
3. Click **New**.
4. Enter the name of the printer in the **Printer settings** dialog box.
5. Click the interface type in the **Connection type** list.
   - **Parallel**: If the printer is attached to a parallel port.
   - **Serial (COM1)**: If the printer is attached to the external serial port. Click the baud rate from the **Baud rate** list. To set COM port settings, see “3.12.4 COM Ports.”
   - **USB**: If the printer is attached to a USB port.

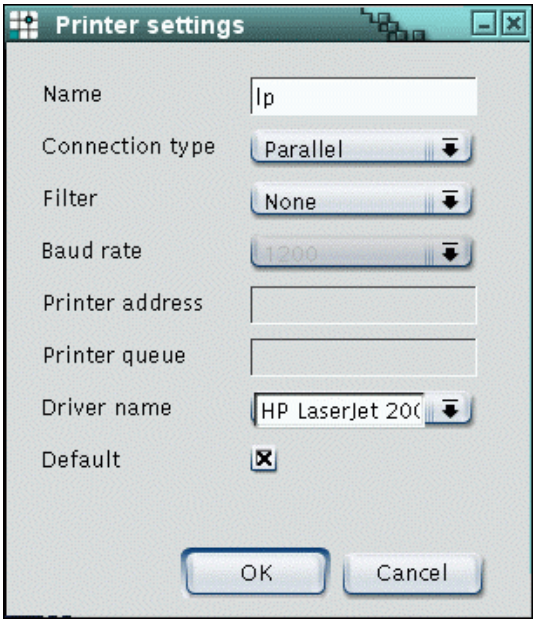


Figure 39: Printer definition dialog box (settings for local printer shown)

6. From the **Filter** drop-down list, select **Text** to print from a local shell (print shell command: `lpr -P` <*printer name*>). Select **PCL2** for the PCL 2 protocol. Select **None** to disable filtering. In this case, the print data will be sent to the printer in the output format of the application. See also “Filtering” below.
7. Citrix MetaFrame ICA servers have autocreated printer capabilities. Autocreated printer means a printer definition is automatically created on the MetaFrame server when you connect via ICA. It is now possible to configure eLux NG to use these capabilities. Enter the following:

   Driver name: Enter the driver for your printer. Note: The printer driver name must be exactly the same as the driver installed on the MetaFrame server. See the installed printer driver list on the MetaFrame server if you are unsure. The MetaFrame server will not autocreate a printer if the printer driver you entered here is not installed on the MetaFrame server (check capitalization and spelling!).

   Default: Sets the printer to your default printer on the MetaFrame server.

8. Click **OK** in the **Printer definition** dialog box and **Apply** in the **Printer** subtab.

Filtering

To configure the filter, you must determine which page description language is being used by the application and by the printer. The two most common are PostScript® from Adobe and Printer Control Language (PCL®) from Hewlett Packard.

If the output format of the application differs from the local printer format, you will have to activate the filter.

File format		Convert to	Filter Setting
UNIX text	⇨	DOS text	“Text”
PostScript	⇨	PCL2	“PCL2”

If the application output format is the same as the printer format, disable the filter (“None”).

Troubleshooting

Printing is a complex topic beyond the scope of this manual. For help with a specific printer, please contact the printer manufacturer. As a guide, below is help for some common questions.

1. PostScript file – PostScript printer (Filter = “None”)

Most local applications – such as the local browser or Acrobat Reader – generate PostScript output. To print PostScript files to a PostScript printer, the filter should be set to “None.”

If your printer prints a large amount of ASCII text, your file could be PCL. To check the file format, in the print dialog select “Print to file” and save to a network drive or to the local directory “tmp”. Open the resulting *.prn file using Notepad or vi. If the first line starts with %! the file is PostScript.

2. PostScript file – PCL printer (filter should be set to “PCL2”)

For this filter option to be displayed, the PCL package must be installed on the Thin Client (“PCL printer support” located in the base OS). By default, it is not installed.

3. Is the printing problem affecting multiple devices or just one device? If one device, make sure the Thin Client is working properly – try printing to other printers, accessing network drives, contacting other devices, etc. If it cannot, it is not a printer problem. If it can, see if the print job reaches the printer (most printers have a status line). If it does, the problem is most likely the file format. See 1 and 2 above.

4. Attempt to communicate with the printer on a protocol level. If the printer has an IP address, ping it from a local shell (see “4.8.1 XTerm (Local Shell)”). If you are unsuccessful, or if the problem is affecting multiple Thin Clients, it may be a network problem.

5. If the application stops responding, or “hangs,” you may have a performance problem. For example, the Thin Client buffers print data in main memory. How large is the main memory compared to the file you are trying to print? The more complex the file, the larger it will be. Graphics and color increase file size. PostScript files are often much larger than the original file. If your main memory is small, printing large files could cause a delay if the printer is not ready at the time a print task is running (see 6). Avoid this by checking the printer status in advance and by setting a “Maximum printer response” time-out.

6. Hardware problem: Verify that the printer is on and ready, that the paper tray is full, and that there are no error messages in the display.

3.11.2 Network Printer

The Thin Client uses the standardized Line Printer Daemon Protocol (BSD spool) as defined in RFC 1179 to communicate with network printers.

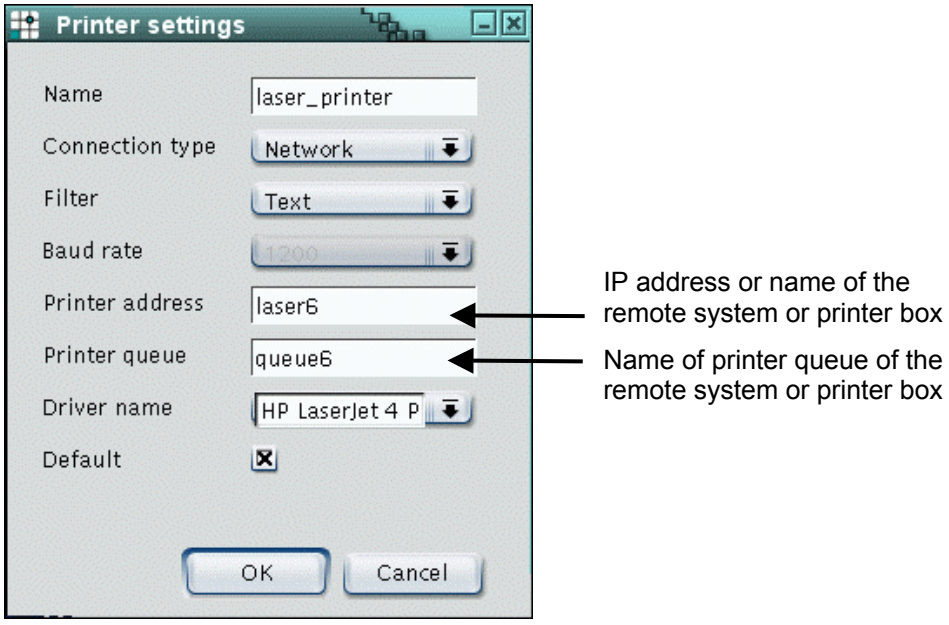


Figure 40: Printer definition dialog box (settings for network printer shown)

⇨ To set up a network printer

From the **Setup** tab, click the **Printer** subtab.

1. Click **New**.
2. Enter the name of the printer in the **Printer settings** dialog box.
3. From the **Connection type** drop-down list, select **Network**.
4. From the **Filter** drop-down list, select **None** to disable filtering. Select **Text** to print from a local shell (print shell command: `lpr -P`*<printer name>*). Select **PCL2** for the PCL2 protocol (not supported by all hardware platforms).
5. Enter the IP address or name of the remote system or printer box in the **Printer address** field.
   - If your network does not have a DNS server, alternatively you can use the name of the printer if it has been defined in the local hosts file on the Thin Client (**Setup** > **Network** > **Advanced**) See Ch. 3.2 Network.
6. Enter the name of the printer queue of the remote system or printer box in the **Printer queue** field.
7. Citrix MetaFrame ICA servers can automatically create a printer definition ("autocreated printer") using parameters you entered on the Thin Client. These parameters are transferred to the MetaFrame server when you connect via ICA. Enter the following:

   Driver name: Enter the driver for your printer. Note: The printer driver name must be exactly the same as the driver installed on the MetaFrame server. See the installed printer driver list on the MetaFrame server if you are unsure. The MetaFrame server will not autocreate a printer if the printer driver you entered here is not installed on the MetaFrame server (check capitalization and spelling!).

   Default: Sets the printer to your default printer on the MetaFrame server.
8. Click **OK** in the **Printer definition** dialog box and **Apply** in the **Printer** subtab.

3.11.3 Citrix Universal Printer Driver 2

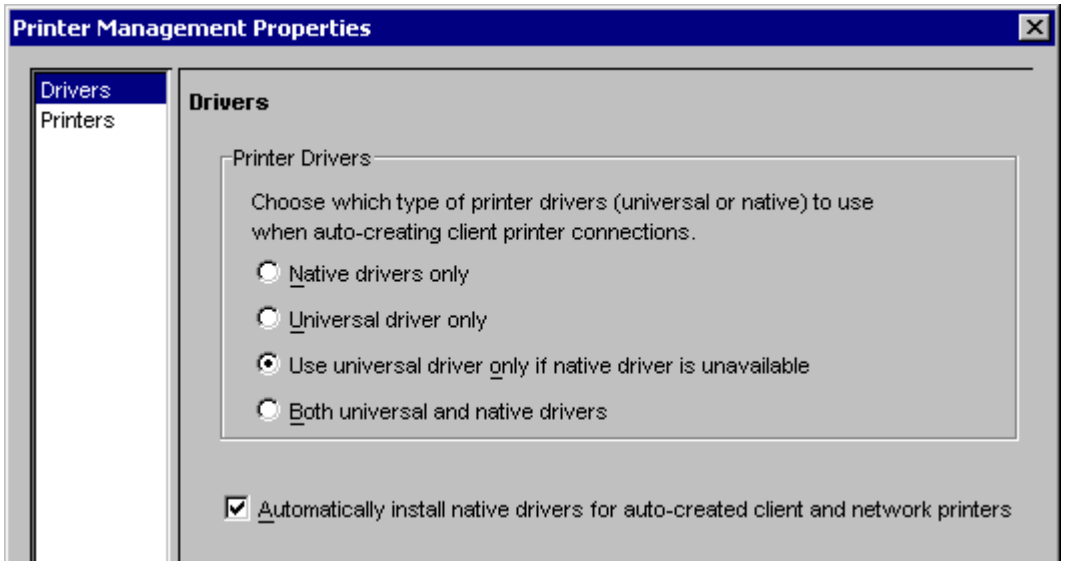
MetaFrame XP with Feature Release 3 offers autocreated printers with generic drivers. To use this feature, you must have Citrix ICA Client for Linux V 7.04 or higher installed on your Thin Client.

Client-side settings are made in the **Printer settings** dialog box described in the previous section.

Server-side settings are described in this section.

To configure driver settings, log on to the server as administrator and open the Management Console for MetaFrame XP. From the context menu for **Printer Management**, select **Properties**. The **Printer Management Properties** dialog box opens.

Click **Printers** in the left-hand panel. Here you set autocreated printer settings. See the Citrix documentation for more information.


Printer Management Properties
Drivers
Printers
Drivers
Printer Drivers
Choose which type of printer drivers (universal or native) to use when auto-creating client printer connections.
Native drivers only
Universal driver only
Use universal driver only if native driver is unavailable
Both universal and native drivers
Automatically install native drivers for auto-created client and network printers

Click **Drivers** in the left-hand panel. Here you set driver settings.

- **Native drivers only** A client printer will be created using the printer driver entered in Scout Enterprise. If the driver is not installed on the MetaFrame server, the client printer will not be created.
- **Universal driver only** A client printer will be created. The printer driver entered in Scout Enterprise will be replaced with the generic driver.
- **Use universal driver only if native driver is unavailable** A client printer will be created using the printer driver entered in Scout Enterprise. If the driver is not installed on the MetaFrame server, the generic driver will be used.
- **Both universal and native drivers** Two versions of each client printer will be created, one with the generic driver and one with the native driver entered in Scout Enterprise.
- **Automatically install native drivers for auto-created client and network printers** Native printer drivers will automatically be installed on MetaFrame XP servers where printers are autocreated.

The generic driver used with the Citrix ICA Client for Linux 7.04 and higher is the MetaFrame XP PS Universal Driver (HP Color LaserJet PS).

In this example, we activate the autocreated printer function and set driver settings to “Universal drivers only if native driver is unavailable.”

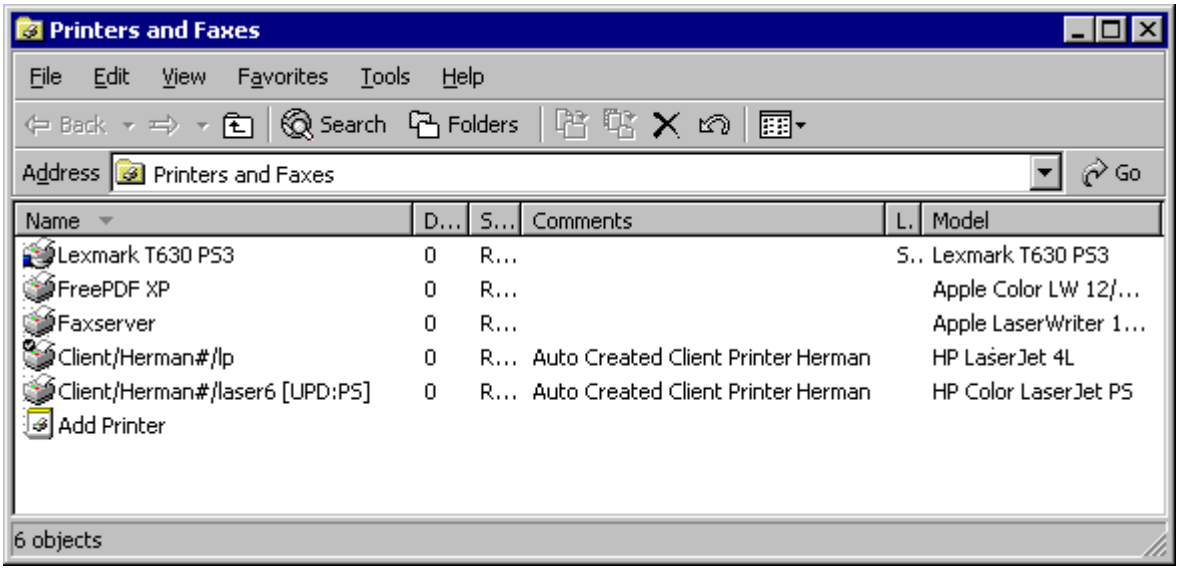

Printers and Faxes
File Edit View Favorites Tools Help
Back Search Folders
Address Printers and Faxes
Go
Name D... S... Comments L. Model
Lexmark T630 PS3 0 R... S.. Lexmark T630 PS3
FreePDF XP 0 R... Apple Color LW 12/...
Faxserver 0 R... Apple LaserWriter 1...
Client/Herman#/lp 0 R... Auto Created Client Printer Herman HP LaserJet 4L
Client/Herman#/laser6 [UPD:PS] 0 R... Auto Created Client Printer Herman HP Color LaserJet PS
Add Printer
6 objects

Figure 41: MetaFrame XP generic printer drivers

Assume the user opens an ICA session to the Citrix MetaFrame server. In the **Printers and Faxes** window (**Start** > **Printers and Faxes**), the user will see icons for the automatically created client printers in the format `Client/`<*hostname*>`#/`<*printer*>, where <*hostname*> is the hostname of the Thin Client and <*printer*> is the name of the printer as defined in Setup.

When a universal printer driver is used, the text "[UPD:<*generic driver name*>]" is appended to the printer name, where <*generic driver name*> is "PS". In the figure above, the client printer "Client/Herman#/lp" is created using the native driver "HP LaserJet 4L" and "Client/Herman#/laser6" is created using the generic driver for PostScript, as the specified driver "HP LaserJet PS" is not installed on the application server.

For more information on server-side settings for Universal Drivers, please see the Citrix documentation for MetaFrame XP with Future Release 3.

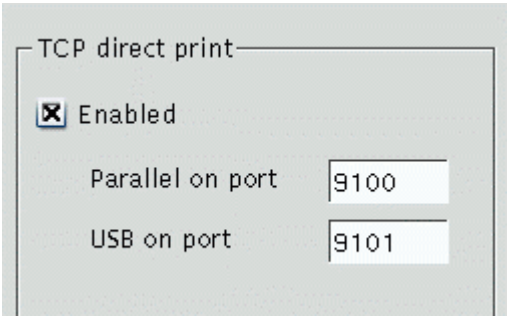
3.11.4 TCP Direct Print

In TCP direct print, data is sent directly to the printer. There is no spooling of print jobs on the Thin Client and the data is not modified before printing. The flow is controlled by TCP/IP.

⇨ To configure the Thin Client as a print server with TCP direct print

Enable TCP/IP on the Thin Client.

1. In the eLux NG starter (**Setup** > **Printer**) click to select "TCP direct print" > **Enabled**.
2. Enter the number of the port (parallel or USB) the printer is attached to.
3. Click **Apply** in the **Printer** subtab.



The IP address of the Thin Client, printer name and port number must be entered at the remote machine.

The Thin Client can resolve the host name of the machine initiating the print job. If you don't have a domain name service (DNS), enter the host name and the IP address in the local file "hosts" (**Setup** > **Network** > **Advanced**). See Ch. 3.2 Network.

3.11.5 Thin Client as Print Server

Other workstations or servers can use a printer connected to a Thin Client. These workstations or servers must either support TCP direct print or have the have the LPR protocol (BSD spool) installed.

The figure below shows the definition of an LPR printer in Windows NT Server.

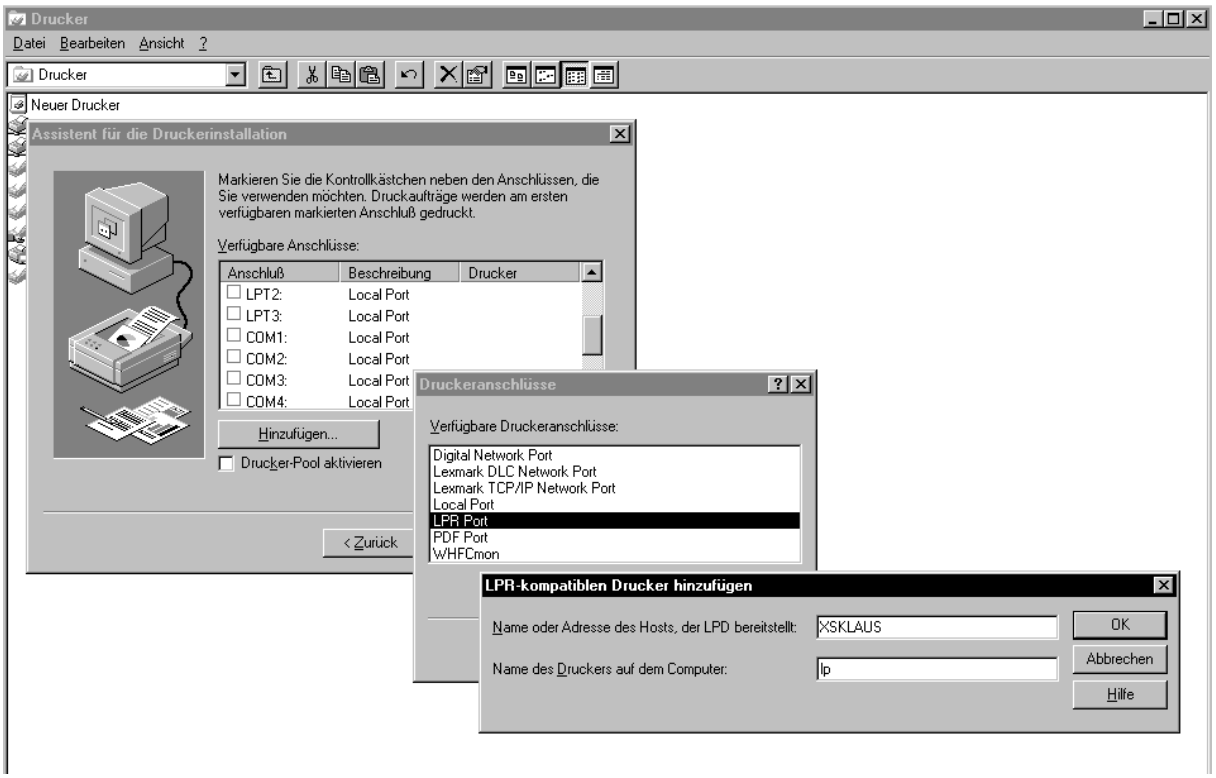


Figure 42: Installing an LPR printer

⇨ To define an LPR printer in Windows NT

In Windows NT,

1. Install the “Microsoft TCP/IP Print Service” via **Control Panel > Network > Services**.
2. Install the printers in the Print Setup.
3. Use the eLux NG printer as a network printer from the Windows NT station.

⇨ To define an LPR printer in Sinix

In Sinix,

1. Create a so-called sinkfile for every printer. The name is arbitrary:
   `>/var/spool/Spool/config/my_elux_printer`
2. Add the printer to the system. Be sure that the Thin Client can be reached when entering the following command:
   `xpadd -dev my_elux_printer`

   `da /var/spool/Spool/config/my_elux_printer` // Sinkfile

   `-su root` // Xprint Supervisor

   `-fl bsd` // LPR print filter

   `-ca "host=myterminal queue=lp"` // Host name of Thin Client and queue name as defined.

   `-pc HP_LASERJET` // Printer type

3. Activate the printer:
   `xpchange -dev my_elux_printer`
4. Test the printer:
   `xpadd -de my_elux_printer dr /etc/hosts`

3.11.6 ThinPrint

ThinPrint® software from the ThinPrint GmbH in Germany allows optimized printing in network across various platforms. Components include the ThinPrint server and ThinPrint client. The server component processes print data for the target printer and sends it in compressed form to the client. The client receives print jobs from the server, decompresses them and sends them to the selected printer. ThinPrint Server and Client are connected via TCP/IP. ThinPrint is a print protocol. Unlike TCP direct, LPR or CUPS, with ThinPrint the bandwidth can be specified, meaning it is a viable option for networks with small bandwidth.

To use this software, on the Thin Client you must install the ThinPrint client software, attach a local printer and configure the ThinPrint Client and ThinPrint Server.

⇨ To configure the ThinPrint client as a local application using a user-defined command

1. Install the software “Thin Print client” (“thinprint”) on the Thin Client.
2. Connect a printer to the Thin Client.
3. On the Thin Client, go to **Configuration** > **New** > **Local**.
   - **Name**: Enter an appropriate name, such as “ThinPrint”.
   - **Application**: Select **Custom**.
   - **Parameter**: Enter the command “thnuclnt” and required parameters. The individual parameters are described the section “Parameters” below.
     Example: `thnuclnt -dev /dev/lp0 -class HP -name “HP LaserJet 6L”`
4. Select **Start automatically** to start the software at device start.
5. (optional) Select **Hidden** to hide the application from the user. (recommended)
6. Click Apply and **Finish**.

Parameters

Format: `thnuclnt -dev` <*device*> `-class` <*classname*> `-name` <*printer name*>

<*device*>	Enter the device name. Use one of the following formats: **Parallel printer** Enter `/dev/lp0`. **USB printer** Enter `/dev/usb/lp0`. **Network printer** Enter the printer definition name as defined in the eLux NG starter (see “3.11.2 Network Printer”). Serial printers are not supported.
<*classname*>	(optional) Class name. Maximum length of seven characters. Do not include blanks.
<*printer name*>	Name for this printer. UNIX conventions generally apply.

For more than one printer, repeat the parameters in the order above.

Example for a parallel and USB printer:

```
thnuclnt -dev /dev/lp0 -class HP -name “HP LaserJet 6L” -dev
/dev/usb/lp0 -class HP -name “HP LaserJet 4L”
```

Note No error messages are displayed when a local program is run. If you enter the command in a local shell, you will be able to view any error messages. We recommend doing this before configuring ThinPrint as a local application using a user-defined command.

See section “4.8.1 XTerm (Local Shell)” for more information on the local shell and section “4.8.4 User-Defined Commands” for information on local commands.

Additional settings must be made on the ThinPrint server. This is beyond the scope of this manual. For more information, please see the ThinPrint documentation available at www.thinprint.com.

3.11.7 CUPS

To use this feature, the software “CUPS printing front-end“ (qtcups) must be installed. In addition, the CUPS server must have server options configured.

The Common UNIX Printing System™ (CUPS™) is a software product from Easy Software Products. It provides a common printing interface within a local network and dynamic printer detection and grouping. The advantage of CUPS is that all configuration takes place on the CUPS server. No configuration takes place locally on the client.

The CUPS server contains a list of back-ends, including parallel port, USB connections, serial connections and network (LPD).

On the Thin Client, when the CUPS client is installed, it replaces the local LPD printing system. All local printer definitions in Setup > **Printer** are ignored.

The CUPS client and server are provided free of charge. Commercial add-ons and support for the CUPS server can be purchased from Easy Software Products. For more information, see www.cups.org.

CUPS is used to print from local applications on the Thin Client (for example, Adobe Acrobat or a local browser). These local applications have PostScript as output format. If you do not have a PostScript printer, you must install a filter (for example, PostScript to PCL) on the CUPS server.

Configuration takes place using the Scout Enterprise management tool. For more information, see the *Scout Enterprise Administrator’s Guide*.

3.12 Hardware

In the **Hardware** tab you can set various hardware settings: USB port activation, RAM disk size and the number of monitors.

Network hardware settings are discussed in chapter “3.13 Network Hardware.”

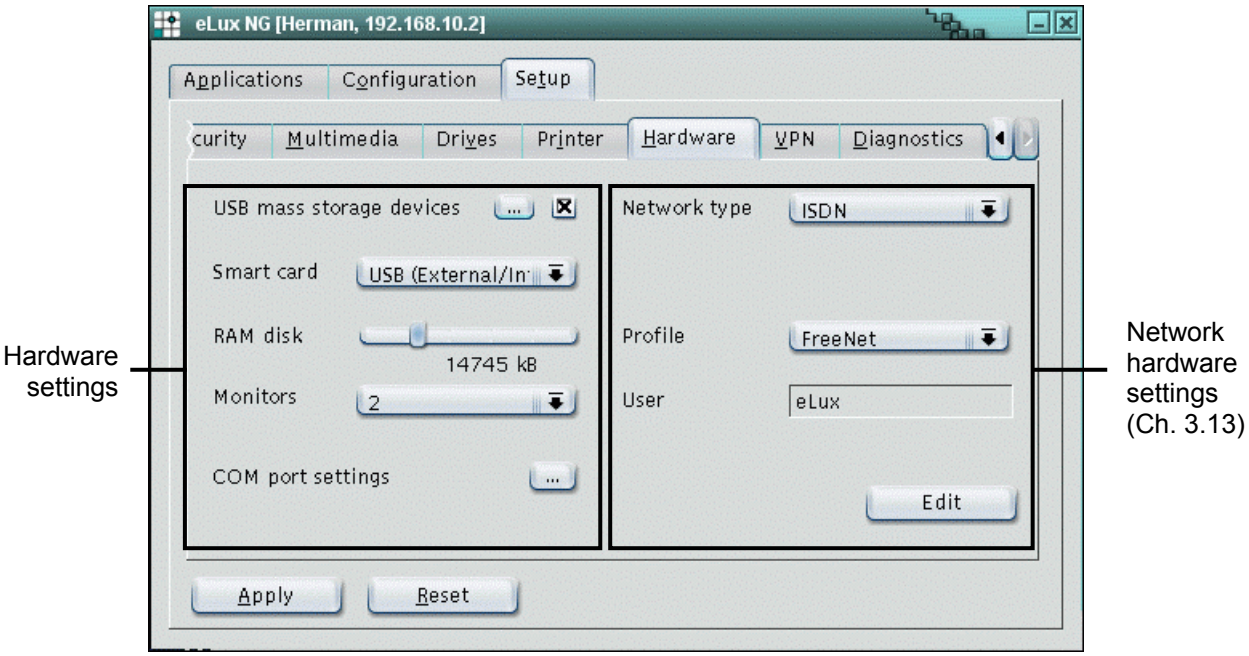


Figure 43: Hardware Tab

3.12.1 USB Devices

The following USB devices are supported:

- card readers
- network adapters
- mass storage devices
- mouse, keyboard

3.12.1.1 USB card readers

Card readers are used with smart cards. For information on smart cards and a list of supported card readers, see “3.15 Smart Card.”

3.12.1.2 USB network adapter

Define a profile for the ISDN connection as described in section “3.13.2 ISDN **.” No further configuration is required (plug-and-play).

Configuring a WLAN USB network adapter is described in section “Fujitsu Siemens WLAN D1700 USB Network Adapter.”

3.12.1.3 USB mass storage devices

In general, all USB mass storage devices are supported including, but not limited to, CD-ROM, floppy, USB stick, 2.0 flash card readers, photo mass storage, etc. A maximum of eight mass storage devices can be used at one time.

For security reasons, by default the port is disabled. To enable the USB ports for mass storage devices, select the check box **USB mass storage devices** in the **Hardware** tab.

Click on the browse button to display currently connected devices.

Accessing USB storage devices is described in section “3.9 Drives.”

3.12.1.4 USB mouse / keyboard

A USB keyboard / mouse can be used without further configuration (plug-and-play). For a list of supported keyboards, see “Appendix 6: Supported Hardware.”

3.12.2 RAM Disk

A large RAM disk is required in special instances, such as printing a large file from Acrobat Reader. You can set the size in a defined area depending on the physical main memory without restricting the basic functionality of the Thin Client. The option **RAM disk** only affects `/tmp` on the flash card (and not `/setup`, for example).

If you have 64 MB or less of main memory, the RAM disk size cannot be changed. It is fixed at 4 MB. However, if your main memory is greater than 64 MB, you can increase the RAM disk settings. In this case, the minimum RAM disk size is 8 MB.

⇨ To modify RAM settings (> 64 MB)

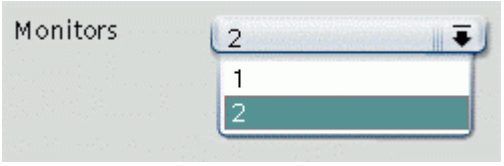
1. From the **Setup** tab, click the **Hardware** subtab.
2. Move the slider to the right to increase the disk space allocated to RAM.
3. Click **Accept**.

Figure 44: RAM disk settings (for > 64 MB main memory)

Data in `/tmp` is automatically deleted when you turn off or restart the Thin Client (**Applications** > **Shutdown** > **Restart** or **Switch off**). It is not deleted when you log off (**Applications** > **Shutdown** > **Log off**).

3.12.3 Multiple Monitors

If you have a video card installed, you can set the number of monitors to use in the **Hardware** tab. You can choose between one, two, three or four monitors (depending on card type). This option is displayed only if the corresponding software (Matrox video card software FPM in base OS, “matrox”) and hardware (a graphics card) are installed.



For a list of supported cards, see “Appendix 6: Supported Hardware.”

3.12.4 COM Ports

Available with base OS 1.8.

You can set COM port settings in the **Hardware** tab.

Click on the **COM port settings** button. The **COM port settings** dialog box appears. Make the desired changes.

3.13 Network Hardware

Software Requirements

ISDN, ADSL, modem: “ISDN Modem ADSL support” (file name: “isdn”) FPM in base OS EPM.

Required software for wireless LAN is discussed in the wireless LAN chapter.

For a description of EPMs and FPMs, see the *ELIAS NG Administrator’s Guide*.

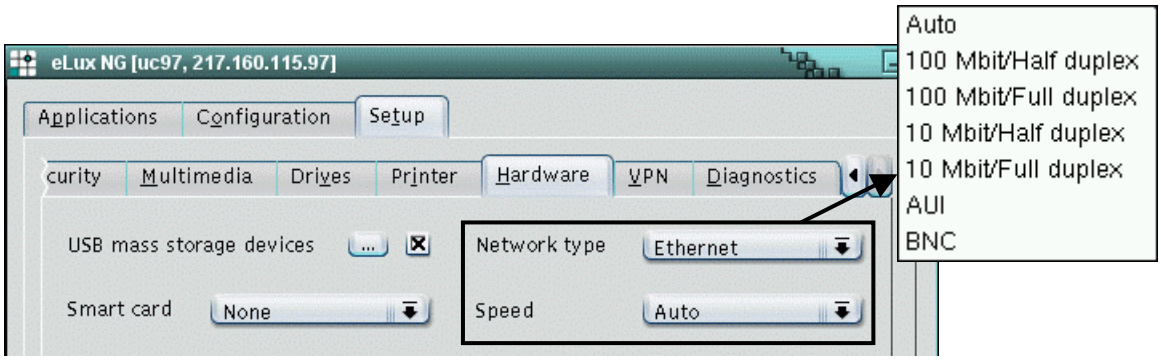
⇨ To modify network hardware settings

1. From the **Setup** tab, click the **Hardware** subtab.
2. Click your network type from the **Network type** drop-down list: **Ethernet, ISDN, ADSL, Modem, Token ring**. Fill in the related fields.
3. Click **Apply**.

A detailed description of each network setting follows. For a list of supported cards, see “Appendix 6: Supported Hardware.”

3.13.1 Ethernet

Depending on your hardware platform you can connect to a local-area network using the onboard Ethernet card, a network interface card, or an adapter card for fiber optic.



⇨ To set network hardware settings for Ethernet

1. From the **Setup** tab, click the **Hardware** subtab.
2. Click **Ethernet** from the **Network type** list.
3. Select the Ethernet speed from the **Speed** list. If **Auto** does not work, see your network administrator for the correct speed.
   - **1 Gbit** Only available for the gigabit Ethernet network card Broadcom Tigon 3 (BCM570x). Other card parameters will be automatically configured.
   - **AUI, BNC**: Only available for the 3Com® EtherLink® 10 PCI Combo Network Interface Card.
4. Click **Apply**.

3.13.2 ISDN **

You have two possibilities to connect to ISDN: PCI interface card or USB modem.

3.13.2.1 ISDN Card

In this variant, the Thin Client has an ISDN card installed and is connected to an ISDN cable.

See “Appendix 6: Supported Hardware” for a list of supported hardware.

3.13.2.2 USB Network Adapter

In this variant, the Thin Client is connected to an ISDN cable over a USB network adapter. Verify that a LAN cable (for example, Ethernet) is not connected to the device.

Warning Do not use USB ISDN with a Thin Client that already contains an ISDN card.

See “Appendix 6: Supported Hardware” for a list of supported hardware.

3.13.2.3 Configuring Network Hardware Settings for ISDN

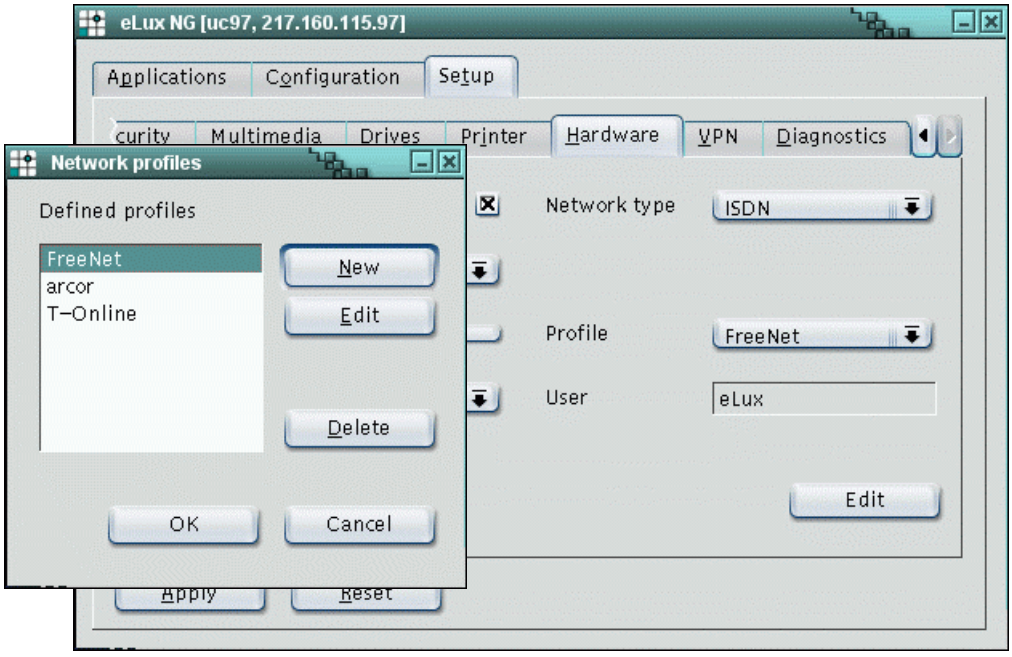


Figure 45: Setup > Hardware > ISDN

1. From the **Setup** tab, click the **Hardware** subtab.
2. Click **ISDN** from the **Network type** list.

   A series of fields appears.
3. Select a profile from the **Profile** list. Otherwise click **Edit** to create or edit one. This opens the **Network profiles** dialog box.
4. In the **Network profiles** dialog box click **New** to create a new profile or **Edit** to modify an existing one.

   The **Profile** dialog box is displayed.

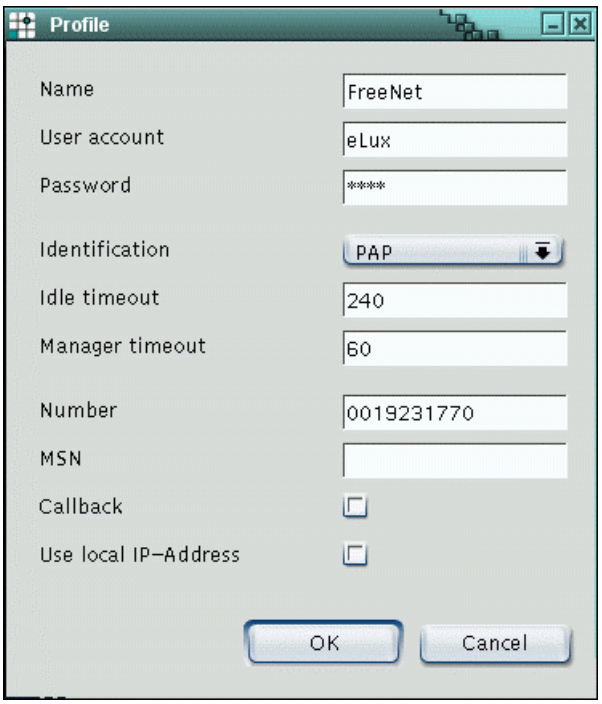


Figure 46: "Profile" dialog box for ISDN

Name:	Enter a name for the ISDN profile, such as the name of your provider.
User account:	Enter the user account name assigned by your provider.
Password:	Enter the password assigned by your provider.
Identification:	Click the method assigned by your provider (generally PAP).
Idle time-out:	Enter an idle time (in seconds). After this specified amount of inactivity, eLux NG disconnects the ISDN connection.
Manager time-out:	Time (in seconds) for the security / remote management tool Scout Enterprise to reply when the terminal boots (ask your network administrator). The Thin Client must be managed. The countdown starts when the network connection is established. See the *Scout Enterprise Administrator's Manual* for information on Scout Enterprise. If the manager time-out is not known, use the default value.
Number:	Enter the access number of your provider. For company telephone systems, include the code used to access an outside line, if required.
MSN:	Multiple Subscriber Number. If you use the callback function, enter the phone number of your terminal (without the area code). If you don't use the callback function, enter zero.
Callback:	Select if your provider supports the callback feature (usually unchecked for commercial providers). If you use callback, you must enter an MSN.
Use local IP address:	Select if your provider reserves a static IP address for your eLux NG terminal (usually unchecked for commercial providers).

5. When you are done entering information for a profile, click **OK** in the **Profile** dialog box. Repeat until you have entered / edited the desired profiles.
6. Click **OK** in the **Profile** dialog box and **Apply** in the **Hardware** subtab.

3.13.2.4 Comments on ISDN

When connecting via ISDN, ADSL or modem it is possible that the thin client's IP address will change dynamically. The new address is updated immediately in the eLux NG starter title bar.

See "Appendix 3: Examples of Internet Profiles" for a list of the default hardware profiles that are delivered in eLux NG. These default profiles are valid in Germany and may not be valid in your country. Use them only as examples when defining your profiles. Included is a T-Online profile.

For troubleshooting, see chapter "5.4 Solutions to Common Problems."

3.13.3 ADSL

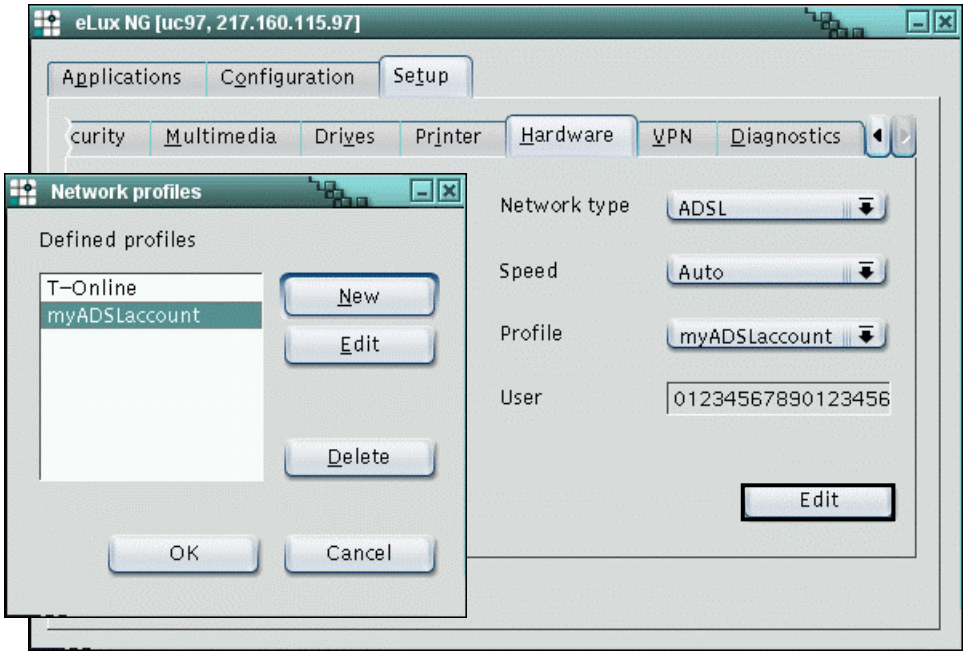


Figure 47: Setup > Hardware > ADSL

1. From the **Setup** tab, click the **Hardware** subtab.
2. Choose **ADSL** from the **Network type** list.

   A series of fields appears.
3. Select the LAN speed from the **Speed** list. If **Auto** does not work, see your network administrator for the correct speed.
4. Select a profile from the **Profile** list. Otherwise click **Edit** to create or edit one.
5. In the **Network profiles** dialog box click **New** to create a new profile or **Edit** to modify an existing one.

   The **Profile** dialog box is displayed.

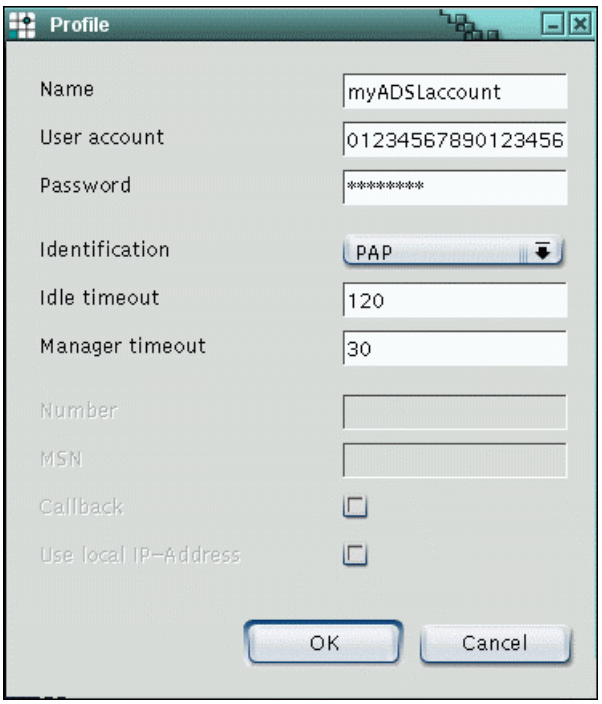


Figure 48: “Profile” dialog box for ADSL

Name:	Enter a name for this profile.
User account:	Enter the user account name assigned by your provider.
Password:	Enter the password assigned by your provider.
Identification:	Select the method assigned by your provider (generally PAP).
Idle time-out:	Enter a value for the idle time (in seconds). After this specified amount of inactivity, eLux NG disconnects the connection.
Manager time-out:	Enter the time (in seconds) for the security / remote management tool Scout Enterprise to reply when the terminal boots (ask your administrator). If not known, use the default value.

6. Click **Apply** in the **Profile** dialog box.
7. Click **OK** in the **Network profile** dialog box and **Apply** in the **Hardware** tab.

When connecting via ISDN, ADSL or modem it is possible that the thin client’s IP address will change dynamically. The new address is updated immediately in the eLux NG starter title bar.

See “Appendix 3: Examples of Internet Profiles” for a list of the default hardware profiles that are delivered in eLux NG. Included is a T-Online profile for ADSL.

3.13.4 Modem

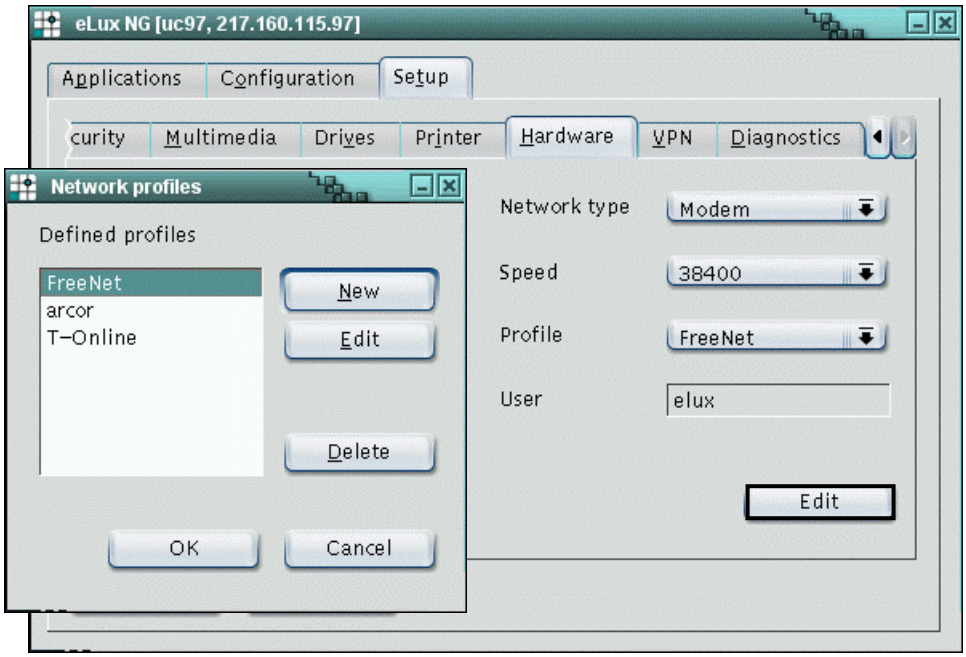


Figure 49: Setup > Hardware > Modem

1. From the **Setup** tab, click the **Hardware** subtab.
2. Choose **Modem** from the **Network type** list.

   A series of fields appears.
3. Click the baud rate of your modem from the **Speed** list.

   Note: Must be greater than the actual maximum modem baud rate.
4. Select a profile from the **Profile** list. Otherwise click **Edit** to create or edit one.
5. In the **Network profiles** dialog box click **New** to create a new profile or **Edit** to modify an existing one.

   The **Profile** dialog box is displayed.

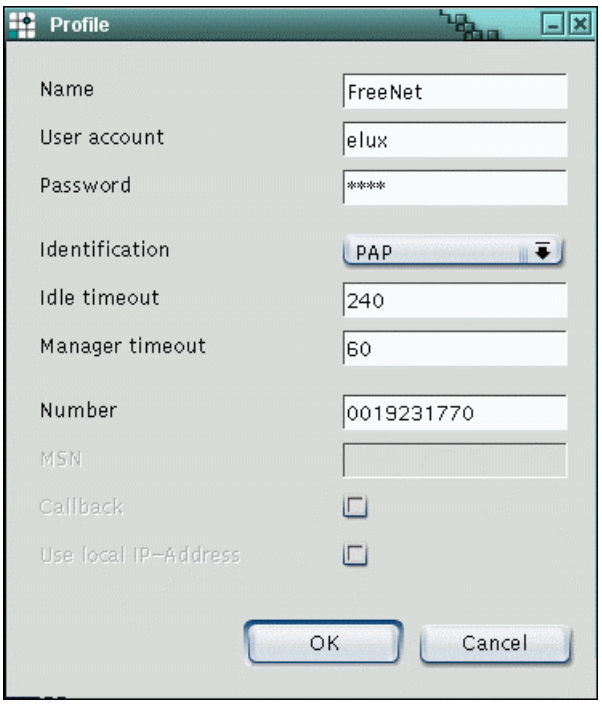


Figure 50:" Profile" dialog box for modem

Name:	Enter a name for this profile.
User account:	Enter the user account name assigned by your provider.
Password:	Enter the password assigned by your provider.
Identification:	Click the method assigned by your provider (generally PAP).
Idle time-out:	Enter a value for the idle time (in seconds). After this specified amount of inactivity, eLux NG disconnects the connection.
Manager time-out:	Enter the time (in seconds) for the security / remote management tool to reply when the terminal boots (ask your administrator). If not known, use the default value.
Number:	Enter the access number of your provider.

6. Click **Apply** in the **Profile** dialog box.
7. Click **OK** in the **Network profiles** dialog box and **Apply** in the **Hardware** tab.

When connecting via ISDN, ADSL or modem it is possible that the thin client's IP address will change dynamically. The new address is updated immediately in the eLux NG starter title bar.

See "Appendix 3: Examples of Internet Profiles" for a list of the default hardware profiles that are delivered in eLux NG. These default profiles are valid in Germany and may not be valid in your country. Use them only as examples when defining your profiles. Included is a T-Online profile.

3.13.5 Token Ring **

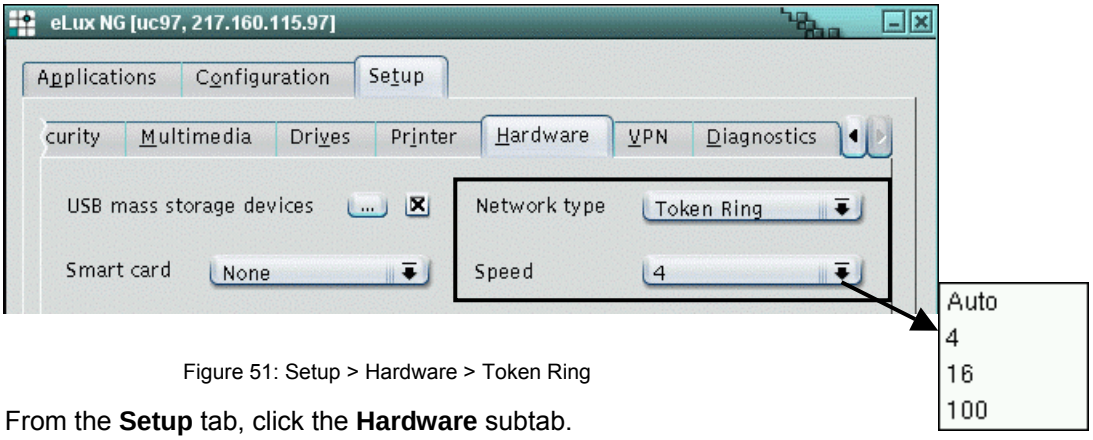


Figure 51: Setup > Hardware > Token Ring

1. From the **Setup** tab, click the **Hardware** subtab.
2. Choose **Token Ring** from the **Network type** list.
3. Click autosensing or the speed (in Mbit/s) from the **Speed** list.
4. Click **Apply**.

3.13.6 Wireless LAN **

eLux NG supports the following wireless LAN products:

(1) Aironet 350 Series Network cards from Cisco Systems, Inc.

(2) DWL-G520 Network card from D-Link Corporation.

(3) WLAN USB D1700 USB network adapter from Fujitsu Siemens Computers.

3.13.6.1 Cisco Aironet 350 Series Network Cards

eLux NG supports the Aironet 350 Series network cards from Cisco Systems, Inc. No adapter is required and it is not necessary to disable the onboard Ethernet controller in the Thin Client's BIOS Setup. This feature is not available for all hardware platforms.

Enabling wireless LAN on your device involves the following:

1. Installing the required firmware
2. Inserting the card
3. Configuring network hardware settings
4. Entering the WEP key for encrypted transfer

⇨ To install the wireless LAN firmware

To use wireless LAN you must install the Aironet Client Utility from Cisco.

1. Start ELIAS NG and add the following packages to the device's IDF:
   - **Aironet Client 350 Series (aironet)** This FPM is found in the base OS package.
   - **GTK Library Package (gtklib)** EPM. This is a library required for the next package. Confirm that the FPM "GTK MM Library" (libgtkmm) is active.
   - **Cisco Aironet Utility (airo)** EPM. The graphical interface of the Cisco client.
2. Save the IDF and exit ELIAS NG.
3. Install the software on the Thin Client by performing a firmware update over Ethernet.

⇨ To insert the wireless card

Insert the card into your device according to the directions that came with the card.

⇨ To set network hardware settings for wireless LAN

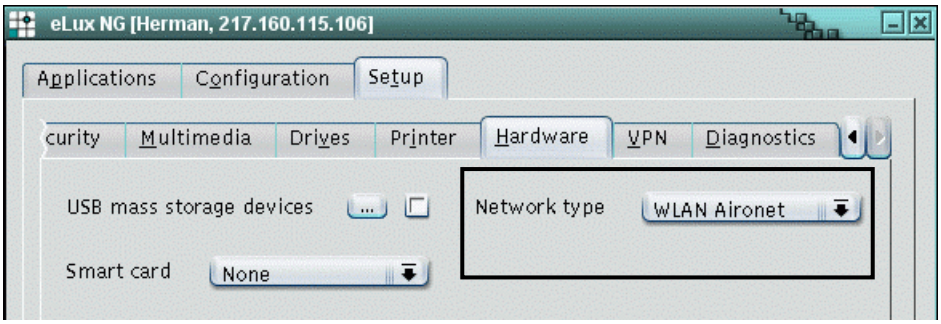


Figure 52: Setup > Hardware > Wireless LAN

1. In eLux NG, from the **Setup** tab, click the **Hardware** subtab.
2. Choose **WLAN Aironet** from the **Network type** list.

3. Click **Apply** and then **Yes** in the **eLux NG Starter** dialog box.
4. When the device restarts, it will attempt to contact the access point using unencrypted wireless LAN.

⇨ To set client-side encryption settings

This section explains how to activate Wired Equivalent Privacy (WEP) with static keys for your client in an enterprise network. WEP is an optional feature based on the IEEE 802.11b standard that provides data confidentiality. Using WEP involves packet-by-packet data encryption by the transmitting device and decryption by the receiving device. The 350 Series supports high-speed WEP at 40 and 128 bits.

Encryption settings are made in the Client Encryption Manager (CEM) portion of the Cisco Aironet Client Utility.

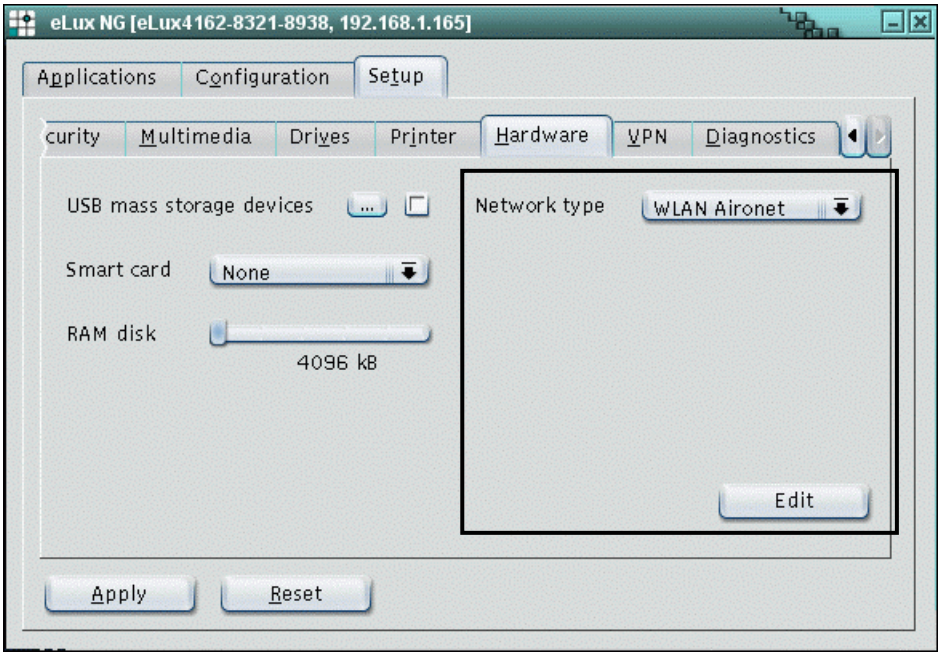


Figure 53: Setup > Hardware > Wireless LAN > Edit button

1. From the **Setup** tab, click the **Hardware** subtab. Click the **Edit** button. The Aironet Client Utility appears (command line equivalent: “acu”).

Note If the **Edit** button is not displayed, select **WLAN Aironet** from the **Network type** list. Click **Apply** and then **Yes** in the **eLux NG Starter** dialog box. After restarting, the **Edit** button will be present.

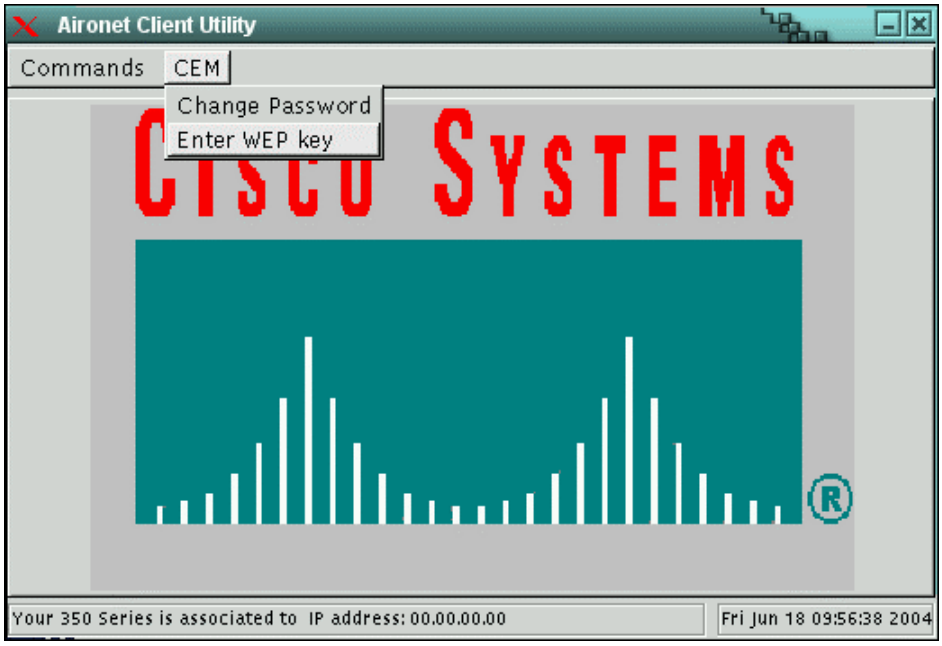


Figure 54: Cisco Aironet Client Utility interface

2. This client program is from Cisco Systems. A few highlights:
   - **Commands > Status** Displays the signal level and other useful information for user-level diagnostics.
   - **Commands > Statistics** Shows how data is currently being transmitted or received.
   - **CEM > Change Password** Allows you to change the Client Encryption Manager (CEM) password.
   - **Commands > Edit Properties** In the **System Parameters** tab, enter the client name and SSID (from the network administrator).

   For a description of all Aironet client settings, see the Cisco documentation. Enterprise-level encryption settings are described below.

3. To activate Wired Equivalent Privacy (WEP) for encrypted transfer, from the **CEM** menu select **Enter WEP key**. Enter the CEM password (default = “Cisco”). The **Enter WEP key(s)** dialog box appears.
4. Click to select the **WEP key** check box, **Transmit Key** check box and speed (40- or 128-bit) for the key that you are creating (1, 2, 3 or 4). Note that the speed must match server-side settings.
5. Enter the WEP key, keeping the following rules in mind:
   - The WEP key must match the WEP key used by the access point with which you are planning to communicate.
   - For 40-bit encryption, the WEP key must be 10 characters in length, for 128-bit encryption, 26 characters.
   - General purpose WEP keys can only consist of the hexadecimal characters 0-9, A-F, and a-f, whereas home networking WEP keys can be comprised of ASCII text.
   - You can write over existing keys, but you cannot edit or delete them.
6. Click **Apply** and **OK**. Note that entering a WEP key does not enable WEP. Also, for security reasons, the codes for existing WEP keys will not be displayed.

7. From the **Commands** menu select **Edit Properties**. The **Properties** dialog box opens. Go to the **Network Security** tab. Click to select the **Enable WEP (Wired Equivalent Privacy)** check box. Click **OK**.
8. Close the Aironet Client Utility and restart the device for configuration settings to take effect.

In addition, security settings must be configured on the access point.

Extensions in Cisco Aironet Utility, V 2.1.13-2 (and later)

With eLux NG V1.20 the software package "Cisco Aironet Utility 2.1.13" has been extended by the programs "leapscript" and "leapset".

leapscript enables to set the user name and password for the LEAP-authentication. LEAP is an authentication method supported by Cisco WLAN devices for networks secured by IEEE 802.1x. Up to now user name and password could only be entered via graphical interface (acu), so that during boot procedure no network connection was available nor could the management server be reached.

leapscript reads the user name and password for the LEAP authentication from the file /setup/aironet/aironet.ini. This file can be entered in Scout Enterprise for devices and/or groups (properties of groups or devices – Advanced file entries).

Structure of the file /setup/aironet/aironet.ini:

Example 1:

```
[LEAP]
Username=elux
CleartextPassword=secret
```

The device authenticates with the user name `elux` and the password `secret`. The password is shown as plain text.

Example 2:

```
[LEAP]
Username=__HOSTNAME__
CleartextPassword=secret
```

The macro __HOSTNAME__ is being replaced by the host name of the device, i.e. each device authenticates by its network name and the password `secret`.

Example 3:

```
[LEAP]
Username=elux
Password=q]@Xy^b[w
```

In this example the password is stored in encrypted form.

leapset – just like **leapscript** – serves for entry of the user name and password for the LEAP authentication. However, entry with leapset can only be done interactively, not by scriptfile.

For further information on Cisco products, or for WEP settings for a home (non-enterprise) network, consult the Cisco documentation.

3.13.6.2 D-Link DWL-G520 Network Card

eLux NG supports the DWL-G520 network card from D-Link Corporation. No adapter is required and it is not necessary to disable the onboard Ethernet controller in the Thin Client's BIOS Setup. This feature is not available for all hardware platforms.

Enabling wireless LAN on your device involves the following:

1. Installing the required firmware
2. Inserting the card
3. Configuring network hardware settings
4. Configuring network hardware settings and entering the WEP key for encrypted transfer

⇨ To install the wireless LAN firmware

To use wireless LAN you must install the following firmware:

1. Start ELIAS NG and add the following packages to the device's IDF:
   - **WLAN DLINK DWL-G520 (wireless_g520)** This FPM is found in the base OS package.

   Note: If you cannot activate this FPM, remove the "Cisco Aironet Utility" (airo) EPM from the IDF first.
2. Save the IDF and exit ELIAS NG.
3. Install the software on the Thin Client by performing a firmware update over Ethernet.

⇨ To insert the wireless card

Insert the card into your device according to the directions that came with the card.

⇨ To set network hardware settings for wireless LAN with DWL-G520

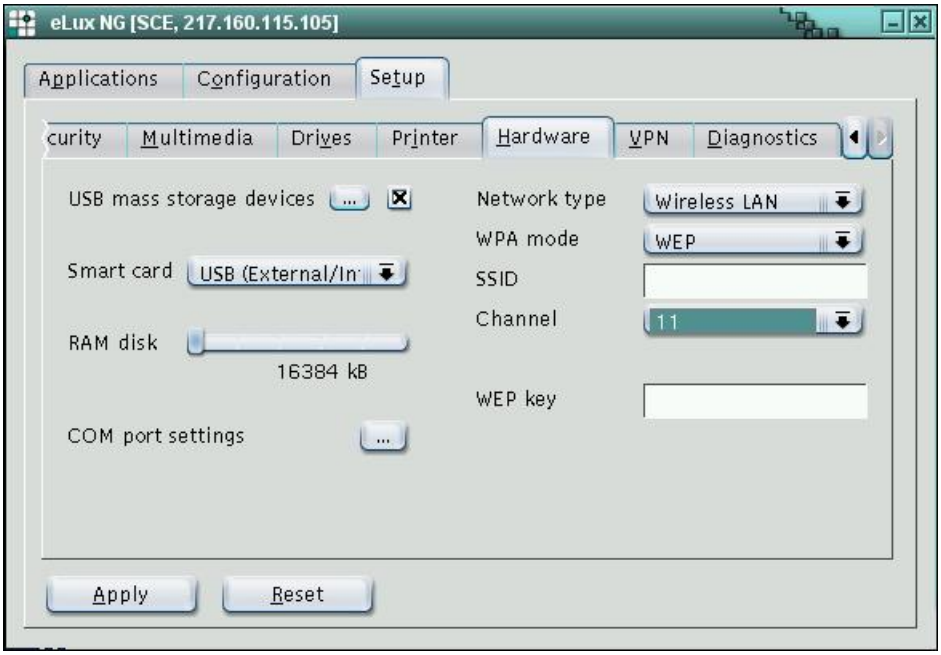


Figure 55 Setup > Hardware > Wireless LAN

1. In eLux NG, from the **Setup** tab, click the **Hardware** subtab.
2. Select **Wireless LAN** from the **Network type** list.
3. Configure the **WPA mode** you want to secure the network by (WEP/WPA/IEEE 802.1x).

Below you find examples for the 3 configurations.

(1) WEP Configuration:

Figure 56 Setup > Hardware > Wireless LAN > WEP

1. Select **WEP** from the **WPA mode** list.
2. Enter the WEP key you received from your network administrator.
3. Enter the **SSID** information you got from your network administrator.
   - Service Set Identifier (SSID) defines the network name of a wireless network based on the IEEE 802.11b standard.
4. Configure the **channel** where the Access Point provides its service or set **Auto** for this parameter, in order to make the client scan for the used channel and automatically configure it.
5. Click **Apply** and then **Yes** in the eLux NG Starter dialog box.

When the device restarts, it will attempt to contact the access point using wireless LAN.

(2) WPA Configuration:

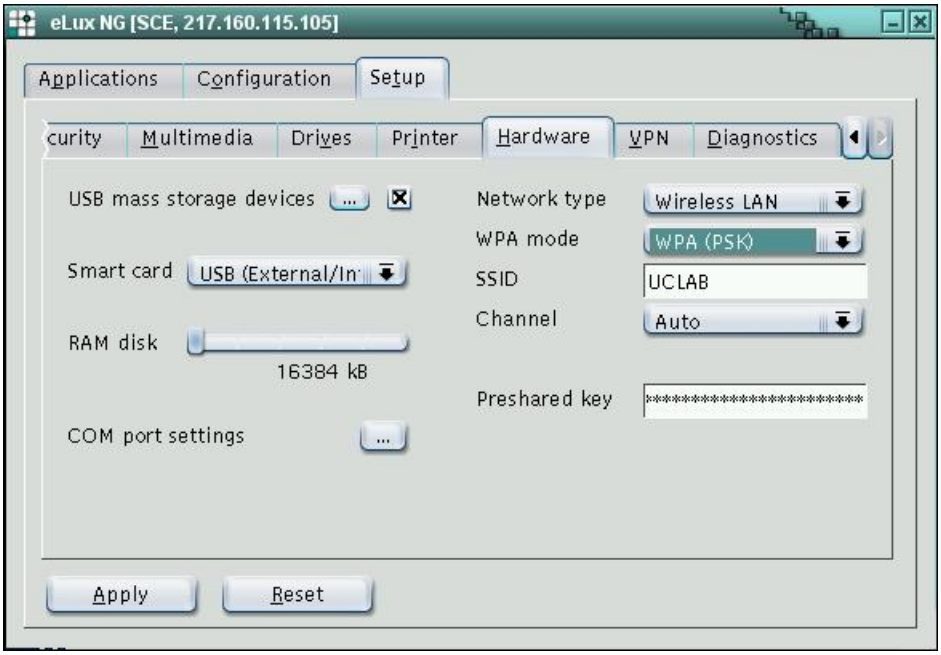


Figure 57 Setup > Hardware > Wireless LAN > WPA

1. Select **WPA (PSK)** from the **WPA mode** list.
2. Enter the **SSID** information you got from your network administrator.
   - Service Set Identifier (SSID) defines the network name of a wireless network based on the IEEE 802.11b standard.
3. Configure the channel where the Access Point provides its service or set Auto for this parameter, in order to make the client scan for the used channel and automatically configure it.
4. Enter the **Preshared Key** you received from your network administrator.
5. Click **Apply** and then **Yes** in the eLux NG Starter dialog box.

(3) IEEE 802.1x/ Leap Configuration:

Figure 58 Setup > Hardware > Wireless LAN > IEEE802.1x

1. Select **IEEE 802.1X (LEAP)** from the **WPA mode** list.
2. Enter the **SSID** information you got from your network administrator.
   - Service Set Identifier (SSID) defines the network name of a wireless network based on the IEEE 802.11b standard.
3. Configure the **channel** where the Access Point provides its service or set **Auto** for this parameter, in order to make the client scan for the used channel and automatically configure it.
4. Depending on your authentication server enter user name and password as set on your authentication server.
5. The Lightweight Extensible Authentication Protocol (LEAP) is a proprietary method which enables to integrate the authentication of wireless clients into a Radius server.
6. Click **Apply** and then **Yes** in the eLux NG Starter dialog box.

Display of the Signalstärke in the taskbar:

When configuring **Wireless LAN** for the network type, the signal strength of your WLAN connection is displayed by an icon on the taskbar..

Signal strength: none

Signal strength: low

Signal strength: medium

Signal strength: high

Signal strength: very high

3.13.6.3 Fujitsu Siemens WLAN D1700 USB Network Adapter

eLux NG supports the Connect2Air™ WLAN E-5400 D1700 USB adapter from Fujitsu Siemens Computers. The Connect2Air USB adapter supports data transfer rates of up to 54 Mb/s and 64 and 128 bit WEP encryption. This product is not supported by all hardware platforms.

Enabling wireless LAN on your device involves the following:

1. Installing the required firmware
2. Attaching the USB network adapter
3. Configuring network hardware settings and entering the WEP key for encrypted transfer

⇨ To install the wireless LAN firmware

To use wireless LAN you must install the following firmware:

1. Start ELIAS NG and add the following packages to the device's IDF:

- **WLAN USB D1700 (wireless)** This FPM is found in the base OS package.

Note: If you cannot activate this FPM, remove the "Cisco Aironet Utility" (airo) EPM from the IDF first.

2. Save the IDF and exit ELIAS NG.
3. Install the software on the Thin Client by performing a firmware update over Ethernet.

⇨ To attach the USB network adapter

Insert the USB network adapter into your device according to the directions that came with the adapter.

⇨ To set network hardware settings for wireless LAN

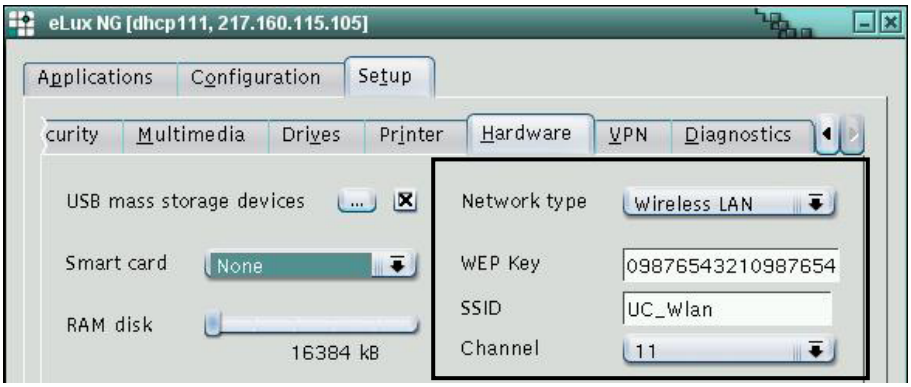


Figure 59: Setup > Hardware > Wireless LAN

1. In eLux NG, from the **Setup** tab, click the **Hardware** subtab.
2. Choose **Wireless LAN** from the **Network type** list.
3. (optional) Enter the WEP key you received from your network administrator. If you leave this field blank, the connection will be unencrypted.
4. Wired Equivalent Privacy (WEP) is based on the IEEE 802.11b standard and provides data confidentiality.
5. (optional) Enter the **SSID** information you got from your network administrator.

6. Service Set Identifier (SSID) defines the network name of a wireless network based on the IEEE 802.11b standard.
7. Configure the **channel** where the Access Point provides its service or set ***Auto*** for this parameter, in order to make the client scan for the used channel and automatically configure it.
8. Click **Apply** and then **Yes** in the **eLux NG Starter** dialog box.
9. When the device restarts, it will attempt to contact the access point using wireless LAN.

3.14 Remote Management

Thin Clients are managed using the Scout Enterprise management tool. In order to be managed, they must be registered in the Scout Enterprise Server. There are two ways to do this:

1. The Scout Enterprise “Client Discovery” function is performed at the Scout Enterprise Server management server. This procedure searches for Thin Clients available over the network remotely and automatically enters the IP address of the management server in the Thin Client’s **Manager** field.
2. A “Reverse Discovery” is similar to a Client Discovery, except that the IP address of the management server Scout Enterprise is entered in the **Manager** field on the Thin Client manually. This procedure is described below.

First, install and configure the Scout Enterprise management software on the designated machine. Second, unpack and set up the Thin Clients. The information you enter in the “Remote management settings area” on the Thin Client is sent to the Scout Enterprise management machine, which uses this information to locate and configure the Thin Client.

⇨ To use the First Configuration Wizard

By default, the first time the Thin Client successfully boots, a Wizard appears to help you through the configuration process.

You have the choice between entering the device in the management software Scout Enterprise or configuring it by hand.

For more information, see “2.2 First Configuration Wizard.”

⇨ To perform a Reverse Discovery

After the initial configuration, you can enter the Thin Client in the management software by performing a Reverse Discovery.

From the **Setup** tab, click the **Security** subtab.

1. Enter the IP address or name of the Scout Enterprise server in the “Manager settings” > **Manager** field. You may also assign the management addresse to the client by the Scout Enterprise Discovery function.

   But if te field already contains an IP address, the terminal is currently being managed.
2. With V1.23 and higher the group may be selected from the list of available groups at the server.
3. With V1.23 and higher the user may disconnect from the management by clicking **delete**, but consider that this effects a **factory reset**.
4. The **Advanced** button opens the dialog with a list of all Scout Enterprise servers, the top one being the currently assigned server. Further you find the info fields here.
   This feature has been implemented in eLux NG V1.23, because of the ability to work with a so-called Scout Enterprise farm, i.e. several Scout servers run simultaneously and the client may use another server in case of a disconnection. This increases availability. The list of Scout Enterprise servers is either transferred by one of the Scout servers or may be set by means of DHCP tags from the DHCP server.
5. Fill in the **Info1**, **Info2**, and **Info3** fields with the information requested by your managing administrator. (We suggest user-specific information such as name, room number, telephone extension, etc.)

Figure 60: Remote management settings area

6. If your Scout Enterprise administrator has predefined groups, enter your group ID number in the **Group ID** field. Otherwise enter zero. This will send the Thin Client's information to the "Lost and Found" group of Scout Enterprise.
7. Click **Apply**.

Note Upon delivery, the host name "ScoutSrv" is preset in the **Manager** field. Set this field to your Scout Enterprise server IP address on your Domain Name Server to automatically enter the device in Scout Enterprise the first time the Thin Client boots. For more information on this functionality as well as on entering Thin Clients in the Scout Enterprise management tool, see the *Scout Enterprise Administrator's Handbook*.

3.15 Smart Card

Smart cards can be used as an eLux NG security feature, for user roaming, for Citrix logon or for RDP logon. The PC/SC lite interface is used.

The following features are supported:

- **Citrix ICA roaming** Allows you to capture a Citrix session that was running on another terminal by removing and inserting a smart card.
- **PKSC#11** The PKSC#11 smart card interface can be used by local applications, for example, by Mozilla to sign or encrypt emails.
- **RDP CSP** A Crypto Service Provider is server-side software. CSP can be used for RDP logon or to capture an RDP session that was running on another terminal (roaming).
- **Secure PIN** Allows you to enter a PIN on a card reader instead of via keyboard. The card verifies the PIN itself.

3.15.1 Configuring Smart Card Hardware Settings

Software Requirements

To use smart cards, the "PCSC Lite" (pcsc_lite) EPM must be installed. Available driver FPMs for various card readers:

- "CCID Gemplus" (gemplus): Driver for the following card readers: Gemplus GemPC Key, Gemplus GemPC Twin USB (serial not supported), OMNIKEY CardMan 3121, Cherry keyboard XX33 with integrated smart card reader, Fujitsu Siemens Computers smart card reader and more. Supports ICA roaming.
- "Castles EZ100" (ez100): Driver for the Castles Technology EZ100 and EZ100PU USB card readers. Supports ICA roaming.
- "Generic CCID reader" (ccid): Driver for the following card readers: Gemplus GemPC Key, Gemplus GemPC Twin USB (serial not supported), OMNIKEY CardMan 3121, Cherry keyboard XX33 with integrated smart card reader, Kobil KAAN Base, Kobil KAAN Advanced, Kobil KAAN SIM III and more. Supports secure PIN.
- "OMNIKEY CardMan 2020" (cm2020): Driver for the OMNIKEY CardMan 2020 and Fujitsu Siemens Computers USB card readers.
- "OMNIKEY CCID" (omnikey): Driver for the following card readers: OMNIKEY CardMan 3121, Cherry smart terminal X44, Cherry SmartBoard X44, Fujitsu Siemens Computers USB smart card reader 2A, Fujitsu Siemens Computers USB keyboard with integrated smart card reader 2A and more. Supports ICA roaming.

In ELIAS NG select the FPM to view the card readers supported by this driver. If the list exceeds available space, in the Package Information window click in the description field and drag with the mouse or press the PAGE DOWN key to view remaining entries.

For a description of EPMs and FPMs, see the *ELIAS NG Administrator's Guide*.

eLux NG supports a number of USB card readers and USB keyboards with integrated card reader from the following companies (not all-inclusive):

- Castles Technology
- Datakey
- Fujitsu Siemens Computers
- Gemplus
- Kobil Systems
- OMNIKEY
- SCM Microsystems

For a table of available drivers and their use at the time of publishing, see "Appendix 7: Supported Smart Card Readers." An up-to-date version of this table is available at www.myelux.com.

Activating the Card Reader

To activate the card reader, in the **Setup** dialog box, click the **Hardware** subtab. From the **Smart Card** list choose **USB**.

Deactivating the Card Reader

If you do not have a card reader, deactivate the card reader setting in the **Hardware** subtab. This prevents you from accidentally being locked out of an application. If a card reader is present, this prevents eLux NG and other applications from accessing it.

3.15.2 Local Authentication

You can restrict local access to the Thin Client by requiring a smart card upon boot.

Local authentication works with the following smart cards:

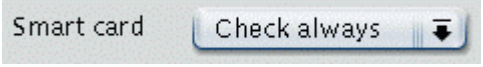
- CardOS® version "M2" or "M4" — Siemens GmbH
- SICRYPT® CryptoCard — Fujitsu Siemens Computers

They must be encoded with the users' logon data (name, password, if desired domain) using the SICRYPT SMARTY 2 software.

Local authentication requires a Fujitsu Siemens Computers card reader.

⇨ To configure the client for smart card authentication

1. Set the smart card hardware settings as described in "3.15.1 Configuring Smart Card Hardware Settings."



2. Set the smart card security settings. In the **Setup** dialog box, click the **Security** subtab. From the **Smart card** drop-down list, click to select one of the following:

- **Always required** A smart card is required when the Thin Client boots and during the entire eLux NG session. If the user removes the card, the session will be locked. A smart card and valid PIN are required to unlock the terminal.
- **Required on startup** A smart card is required only when the Thin Client starts. The local user can remove the card without interrupting the eLux NG session.

3. If the information saved on the smart card includes a domain name, go to the **Network** tab, click **Advanced**, and enter the domain name in the **Smart Card domain** field.

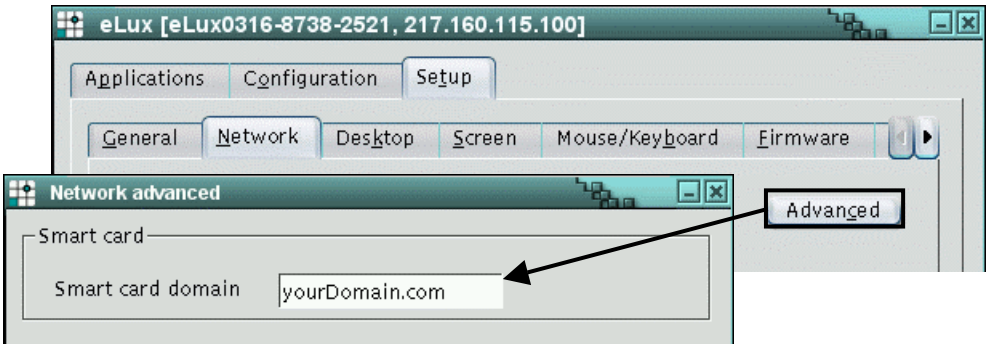


Figure 61: Smart card domain field in Setup > Network > Advanced network settings dialog box

4. Save your changes.

Security settings have now been activated. Depending on the security settings you chose (step 2), the smart card screen will appear at system start and whenever the card is removed during the session, or at system start only. The smart card screen instructs the local user to insert a smart card into the card reader and enter a PIN. The user is blocked until this is done.

Attention Do not mistype the PIN! If an invalid PIN is entered three times, the card is locked and can no longer be used. It must be reset by the smart card administrator using the SICRYPT® SMARTY 2 software.

Troubleshooting

Following is a list of the most frequent error messages.

Code	Error	Description
	`The card is locked`	The card has been locked. See your smart card administrator with SMARTY 2 software to unlock.
	`No card reader was detected`	The card reader is missing. Please attach a card reader and reboot.
	`Domain mismatch`	The domain name saved to the smart card is not the same as the domain entered in eLux NG.
6d00	`Cannot read card`	The card is not supported. Please use cards coded with SMARTY 2.
6301	`PIN mismatch`	Invalid PIN. You have one more attempt to enter the correct PIN.
6302	`PIN mismatch`	Invalid PIN. You have two attempts remaining to enter the correct PIN.

If the smart card does not work, you can access the device by performing a factory reset. For security reasons, all configuration information is deleted. See “5.3 Factory Reset.”

3.15.3 User Roaming

You can combine local authentication with another eLux NG feature: user roaming.

User roaming is transferring an active Windows terminal server session from one eLux NG terminal to another. This is useful when you want to move to a terminal with certain hardware – for example, with a special printer – without logging off from your current ICA or RDP session. In user roaming, the terminal disconnects the session when you remove the smart card (the processes continue to run on the server) and reconnects when you insert the smart card in a second terminal, using the second device's hardware settings (printer, drive mapping).

All terminals that will be used for user roaming must have user roaming enabled in advance.

User roaming works with the following smart cards:

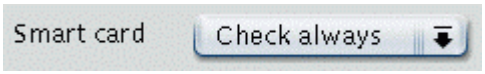
- CardOS® version "M2" or "M4" — Siemens GmbH
- SICRYPT® CryptoCard — Fujitsu Siemens Computers

They must be encoded with the users' Citrix logon data (name, password, domain) using the SICRYPT SMARTY 2 software. A certificate is not permitted.

User roaming requires a Fujitsu Siemens Computers card reader.

⇨ To configure eLux NG for user roaming

1. Set the smart card hardware settings as described in "3.15.1 Configuring Smart Card Hardware Settings."
2. Set the smart card security settings. In the **Setup** tab, click the **Security** subtab. From the **Smart card** drop-down list, click to select the following:



   - **Always required** A smart card is required when the Thin Client boots and during the entire eLux NG session. If the user removes the card, the session will be locked. A smart card and valid PIN are required to unlock the terminal.
3. Click **Apply** and **OK** to close the **Setup** dialog box.
4. Configure one of the following sessions:
   - **ICA** See "4.2.1 Remote Desktop."
   - **RDP** See "4.4.1 Remote Desktop."

   In the application definition, click to select **Roaming**.

   Logon information is read directly from the card. The entries **User**, **Password**, **Domain** in the application definition dialog will be ignored.

   Note: The option **Allow smart card logon** (see "3.15.4 Citrix Logon") cannot be combined with user roaming.
5. Save your changes.

Activating the **Roaming** check box starts the terminal server session automatically. Log on to a Windows session or unlocking a locked Windows session is reduced to inserting a smart card and entering the user PIN for this card. The user logon data is dynamically read from the smart card and used to connect to the terminal server. If the local user removes the smart card, the terminal server session is disconnected. Therefore, certain settings must be defined on the terminal server. For further information, consult the terminal server manual.

3.15.4 Citrix Logon

You can restrict access to a Citrix MetaFrame server by requiring a smart card upon logon. This feature is distinct from local authentication and user roaming and cannot be combined.

Citrix smart card logon works with a number of smart cards. Users' logon data (name, password, domain) as well as a certificate are saved to the smart card. You must have the corresponding smart card software installed on your MetaFrame server. See the Citrix documentation for more information.

⇨ To configure eLux NG for Citrix ICA smart card logon

1. Set the smart card hardware settings as described in "3.15.1 Configuring Smart Card Hardware Settings."
2. Set the smart card security settings. In **Setup**, click the **Security** subtab. From the **Smart card** drop-down list, click to select the following:
   - **Not required** This disables eLux NG security settings, freeing up the card reader for other applications, in this case, for the Citrix ICA client.

   Click **Apply**.
3. Go to the **Configuration** tab. Configure an ICA session as described in "4.2.1 Remote Desktop." Click to select **Allow smart card logon**.
4. Save your changes.

3.15.5 RDP Logon

To use this feature, your terminal server must support RDP 5.2 or higher. In addition, on the thin client you must have base OS 1.14.1 or higher and the RDP native client 1.4.0 or higher installed ("rdesktop52").

You can restrict access to a terminal server by requiring a smart card upon logon. This feature is distinct from local authentication and user roaming and cannot be combined.

RDP smart card logon works with a number of smart cards. Users' logon data (name, password, domain) as well as a certificate are saved to the smart card. You must have the corresponding smart card software installed on your server.

The following cryptographic service providers are supported:

- GemSAFE™ from Gemplus®
- SafeSign® from Thales e-Security Ltd.

⇨ To configure eLux NG for RDP smart card logon

1. Set the smart card hardware settings as described in "3.15.1 Configuring Smart Card Hardware Settings."
2. Set the smart card security settings. In **Setup**, click the **Security** subtab. From the **Smart card** drop-down list, click to select the following:
   - **Not required** This disables eLux NG security settings, freeing up the card reader for other applications, in this case, for the RDP client.

   Click **Apply**.
3. Go to the **Configuration** tab. Configure an RDP session as described in "4.4.1 Remote Desktop." Leave **Roaming** deselected.
4. Click **Advanced**.
5. In the **RDP advanced** dialog box go to the **Advanced** tab and set the protocol to "Auto" or "RDP V5".
6. Go to the **Local Resources** tab and select the **Enable smart card** check box.
7. Save your changes.

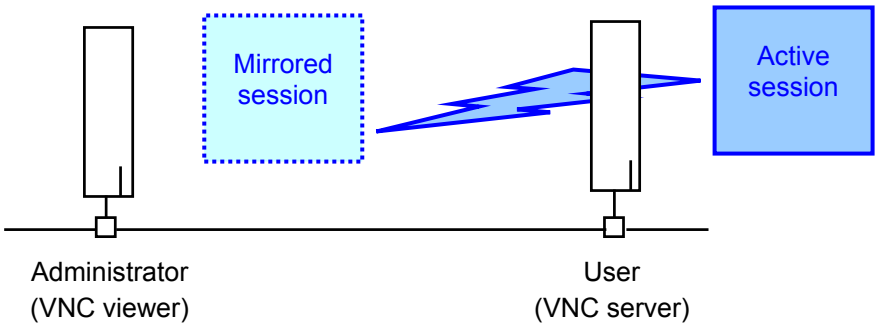
3.16 Mirroring

Mirroring is the term used to describe the process of monitoring a user's session remotely and, optionally, participating in the session using your own keyboard and mouse. Mirroring has a variety of uses, including troubleshooting, training and presentations.

Mirroring requires server-side and client-side configuration. In this section, we will use the scenario of a Thin Client mirroring another Thin Client.

Required Software

Administrator	VNC viewer ("VNC client" (vnc)). (If the administrator machine is not a Thin Client, use the respective VNC viewer software.)
User	VNC server ("eLux NG mirroring" (mirror)). Mirroring is disabled if the eLux NG terminal does not have the necessary firmware installed.



⇨ To enable / disable mirroring (user terminal)

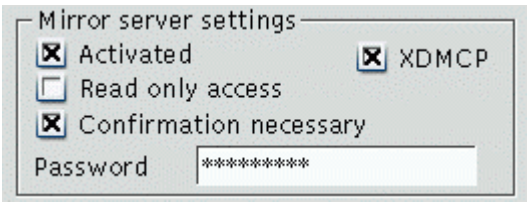
From the **Setup** tab, click the **Security** subtab.

1. Select the **Activated** check box to allow mirroring. Other options are:

   Read only access: Gives other machines view rights only.

   Confirmation necessary: The user must confirm a mirroring session before it can start.

   XDMCP: Enables mirroring of XDMCP sessions.

   Password: (optional) Set the password that must be entered to start a mirroring session.
2. Click **Apply**.

⇨ To configure the eLux NG VNC viewer (administrator machine)

From the **Configuration** tab, click **New**.

1. The **Application Definition** dialog box appears. Click the **Emulation** tab.
2. Click **VNC** in the **Emulation type** list. A series of fields appears.
   - **Name**: Enter an appropriate name for this application, such as "mirror."
   - **Server address**: Use the following format:
     <IP address or name of the eLux NG terminal>:<display number>

   For description of display numbers, see below.
   - **Password**: (optional) Enter the mirroring password saved to the target device. If a mirroring password does not exist, leave blank.
3. Click **Finish**.

During the mirroring session, the keyboard mapping of the local system has precedence.

Display number

You can enter “0”, “1” or “2” for the display number.

If your hardware platform supports multiple consoles, use "0" to mirror the eLux NG main screen. Use “1” to mirror the first running XDMCP session and “2” for the second XDMCP session, if applicable.

If your hardware platform does not support multiple consoles – you will know this because the eLux NG desktop is automatically ended when an XDMCP session is started – always use “0”.

Security concerns

During a mirroring session, a message box appears on the remote machine, making it impossible to “secretly” mirror a user. The user can end a mirroring session at any time. In addition, you can set a mirroring password. Nonetheless, if security is a concern, you can deactivate mirroring entirely by deselecting the **Activated** check box in the **Security** subtab > “Mirror server settings”.

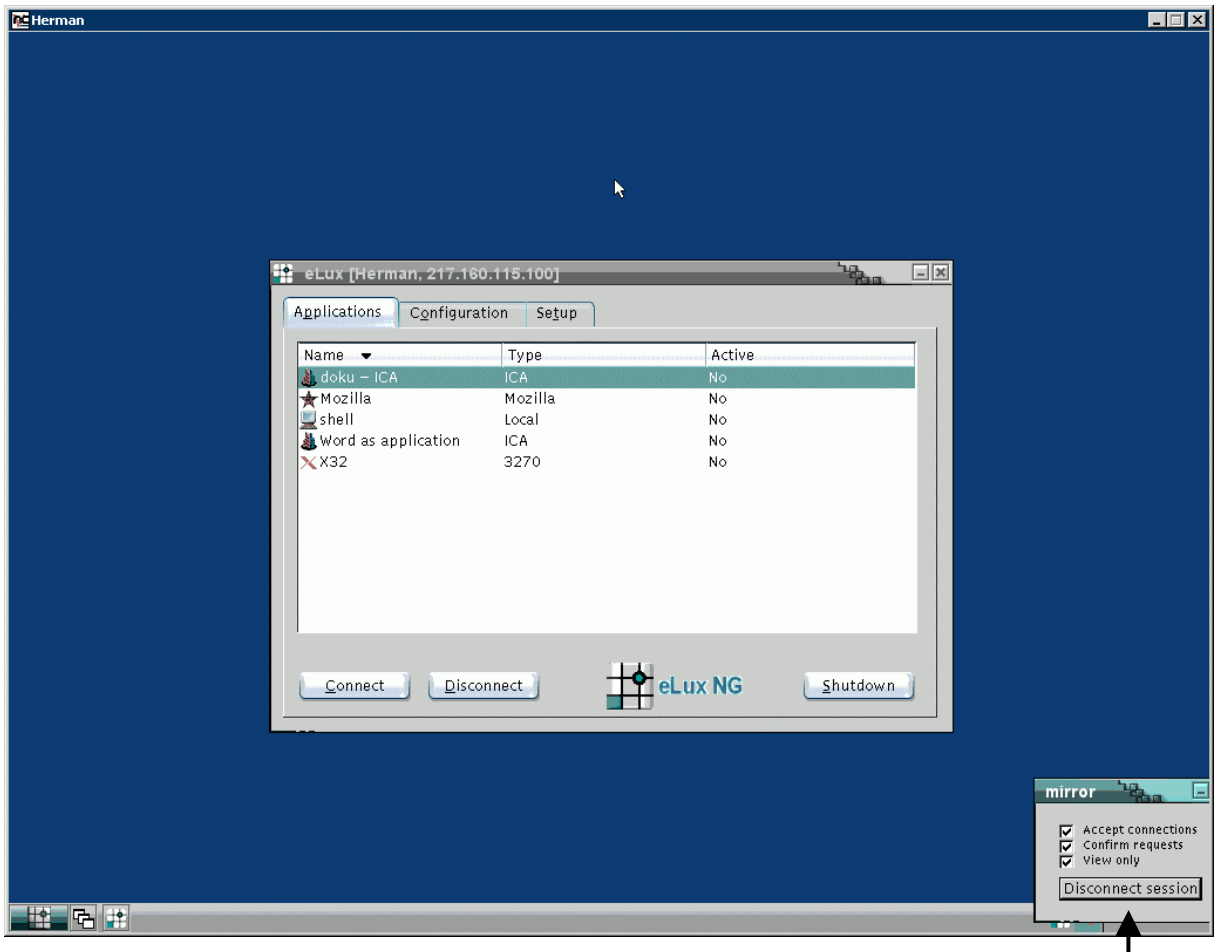


Figure 62: Example mirroring session – eLux NG desktop (display 0)

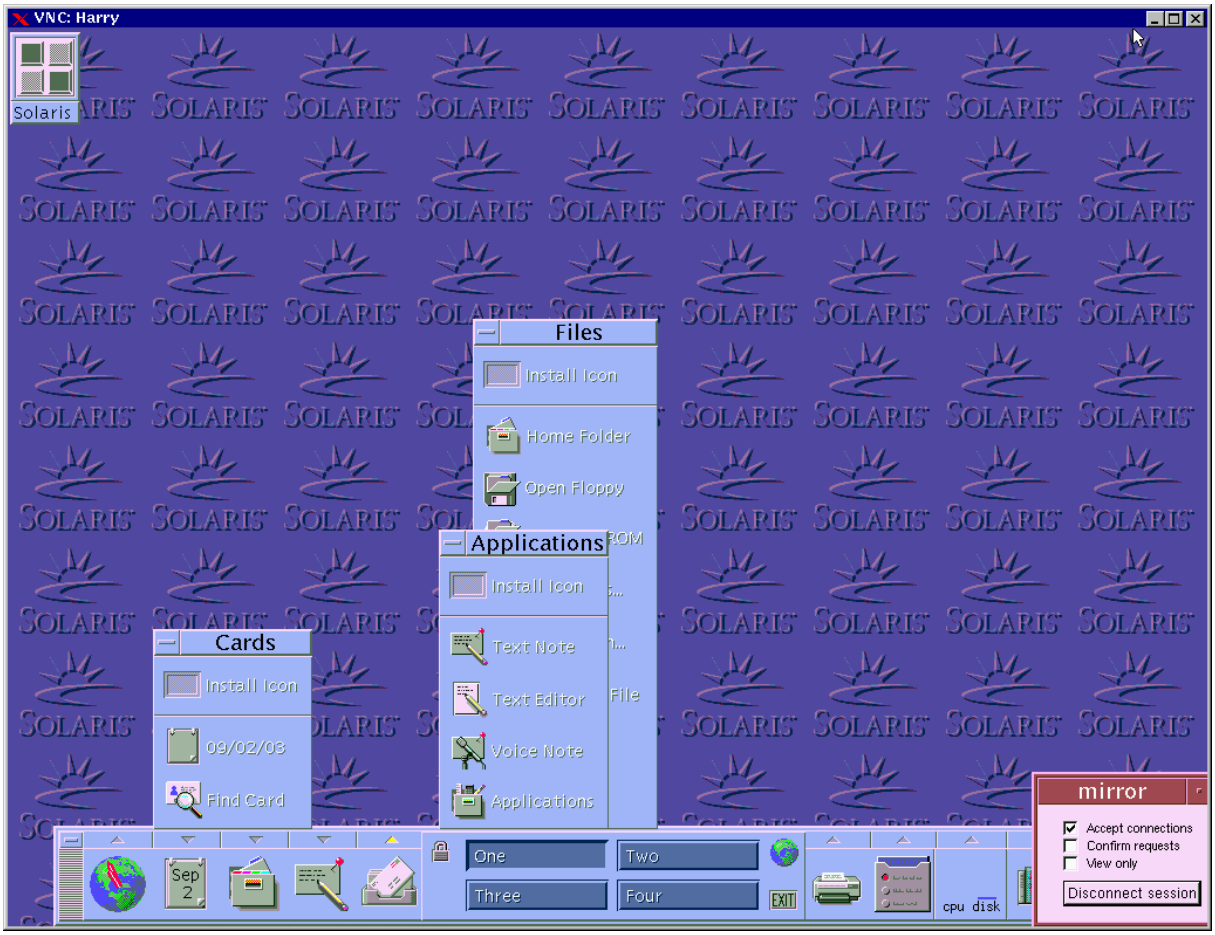


Figure 63: Example mirroring session – XDMCP session (display number depends on hardware platform)

Related Information

Section “4.7.6 VNC” discusses configuring the free eLux NG software “VNC viewer”.

Section “4.7.5 XDMCP” discusses configuring XDMCP sessions.

3.17 VPN

A virtual private network (VPN) is a system that allows two or more private networks to be connected over a publicly accessible network, such as the Internet. These systems use encryption and other security mechanisms to ensure that only authorized users can access the network and that the data cannot be intercepted. A VPN can be used to exchange critical information between employees working remotely or to securely deliver information between business partners.

eLux NG can be used with Cisco VPN.

3.17.1 Cisco VPN Client **

The Cisco VPN client is used to connect to a Cisco VPN device to create a secure connection between the Thin Client and a private network. It uses Internet Key Exchange (IKE) and IP Security (IPSec) tunneling protocols to establish and manage the secure connection. You can connect using LAN, DSL or ISDN to one of the following:

- Cisco IOS devices that support Easy VPN server functionality
- VPN 3000 Series Concentrators
- Cisco PIX Firewall Series

The following describes how to configure the VPN client via shell and start a session using preshared keys. Configuration takes place locally on each Thin Client that will access the private network. It is assumed that the initial configuration takes place in the company's Ethernet network before the device is transferred to a remote workplace using Ethernet, ADSL, ISDN or WLAN.

Each Thin Client must have the configuration parameters saved to the file: `/setup/ciscovpn/sample.pcf`.

This section assumes you are familiar with defining a local shell, setting network hardware settings and using the UNIX text editor vi.

Firewall Issues

If you are running a firewall, the following types of traffic must be allowed through:

- Port 500 for UDP
- Port 10000 for UDP (or any other port number being used for IPSec/UDP)
- IP protocol 50 (ESP)
- TCP port configured for IPSec/TCP
- NAT-T (Standards-Based NAT Transparency) port 4500

Required Information

The following information is necessary for the configuration (see your VPN system administrator):

- Hostname or IP address of the secure gateway you are connecting to
- IPSec group name
- IPSec group password
- Username and password if authenticating through:
  ~ the secure gateway's internal server
  ~ an authentication, authorization and accounting (AAA) server, either RADIUS or TACACS+
- The hostnames or IP addresses of the backup servers, if configuring backup server connections

Using the Cisco VPN to build a tunnel involves the following:

1. Installing the required firmware
2. Configuring network hardware settings
3. Configuring the Cisco VPN client
4. Initiating a connection
5. Configuring an application for automatic start

⇨ To install the required firmware

To set up your VPN you must install the VPN client from Cisco.

1. Start ELIAS NG and add the following packages to the device's IDF:
   - Base OS 1.7 or later
   - Browser of your choice (optional, for testing purposes)
   - **Cisco Systems VPN Client (cisco_vpnclient)** EPM. The Cisco client software.
2. Save the IDF and exit ELIAS NG.
3. Install the software on the Thin Client by performing a firmware update.

Note Only one VPN may be installed on the Thin Client at a time. In ELIAS NG, if you receive the error message "Package already defined" when selecting the package, remove the current VPN from your IDF.

⇨ To configure network hardware settings

1. Configure the network hardware settings.

   Tip: For ISDN or ADSL, set the time-out to 600 seconds.

   For information on how to configure network hardware settings, see "3.13 Network Hardware."
2. Restart the device.
3. Test that your hardware parameters are correct.

   Tip: You can do this by starting a local browser (such as Opera, Mozilla or Firefox). If you can successfully connect to an external Web site, the parameters are valid.

⇨ To configure the Cisco VPN client

To initiate an encrypted session with a Cisco device, you must have certain parameters saved to the device. The Cisco VPN client default configuration file is sample.pcf.

Edit the profile configuration file with one of the following:

- UNIX editor vi. Run a local shell (see "4.8.1 XTerm (Local Shell)"). At the command-line prompt type the following command to open the file in the editor vi:
  `vi /setup/ciscovpn/sample.pcf`
- Local text editor (see "4.8.8 Text Editor")

To set the required parameter:

1. Open the file. Set the parameter "Host" to address of the Cisco VPN server. The address can be either in decimal format (nnn.nnn.nnn.nnn) or a DNS Lookup address. You can set other tunnel parameters in this file if desired, such as IPSec group name and password or backup servers. For a complete list of all configuration parameters, see the Cisco documentation.
2. Save the file and exit the editor.

⇨ To initiate a session

1. A VPN session is initiated from the local shell. There is no graphical user interface.
2. To initiate the session, open a local shell. At the bash prompt type: `vpnclient connect sample`
3. If connection was successful, you will be requested to enter a group name and password and a user name and password (depending on the configuration).
4. Once the tunnel has been established, the local shell displays the status of the connection as well as potential error messages (see Figure 64).
5. You can run applications (ICA, RDP, emulations etc.) from the eLux NG starter as usual. The connections will be established through the secure tunnel.
6. To disconnect, type CTRL-C or close the local shell.

⇨ To configure an application for automatic start

After successfully establishing a session from a local shell, you can configure an application to run Cisco VPN automatically when the device starts. This section is optional.

1. From the **Configuration** tab, click **New**. In the **Application Definition** dialog box, click the **Local** tab.
   - **Name**: Enter “VPN Connect”.
   - **Application**: Select **XTERM**.
   - **Parameter**: Enter `–e vpnclient connect sample`
   - **Application Restart**: Leave deselected
   - **Start automatically:** Click to select

2. From now on when the Thin Client starts, the window **VPN Connect** will automatically open and a VPN session will be initiated.

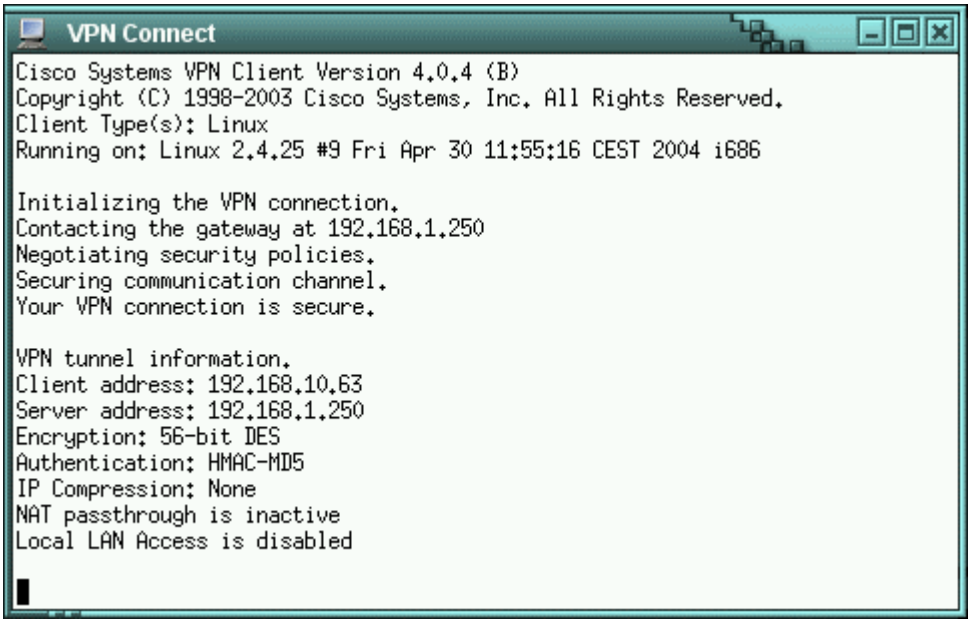

VPN Connect
Cisco Systems VPN Client Version 4.0.4 (B)
Copyright (C) 1998-2003 Cisco Systems, Inc. All Rights Reserved.
Client Type(s): Linux
Running on: Linux 2.4.25 #9 Fri Apr 30 11:55:16 CEST 2004 i686
Initializing the VPN connection.
Contacting the gateway at 192.168.1.250
Negotiating security policies.
Securing communication channel.
Your VPN connection is secure.
VPN tunnel information.
Client address: 192.168.10.63
Server address: 192.168.1.250
Encryption: 56-bit DES
Authentication: HMAC-MD5
IP Compression: None
NAT passthrough is inactive
Local LAN Access is disabled

Figure 64: Initiating an encrypted session with Cisco VPN

3. The **VPN Connect** window displays the status of the connection. The window is displayed only for the duration of the VPN session. Error messages are not displayed.
4. To disconnect, use CTRL-C or close the **VPN Connect** window.

Helpful hints

In a local shell:

- Entering the command `vpnclient` displays a list of all VPN client commands.
- Entering the command `vpnclient stat` displays status information for the connection.
- When you start the client automatically using the `-e` parameter, the window is displayed only for the duration of the VPN session, making it inappropriate for debugging. Call the client from a local shell to view potential error messages.
- You can save more than one profile configuration file to the Thin Client directory `/setup/ciscovpn/`. In this case, when calling the program replace `sample` with <*file name*> where <*file name*> is the name of the profile without the extension *.pcf.
- Always end your applications before closing the VPN tunnel!
- If the VPN tunnel closes when applications are running, the applications will hang. If this occurs, disconnect the session by either closing the window or disconnecting the session in the eLux NG starter. Avoid this by setting high idle times when using ISDN or DSL.
- If you cannot build a tunnel, verify that the network connection is active (especially if you are using ISDN or DSL). One way to do is by starting a local browser.

The configuration parameters in sample.pcf can also be set by Scout Enterprise. In addition, remote devices with Cisco VPN can be managed by Scout Enterprise as long as the manager can be reached outside of the tunnel. See the *Scout Enterprise Administrator's Guide* for more information.

For configuring the profile for authentication using a digital certificate or token vendor, see the Cisco documentation.

3.18 Diagnostics

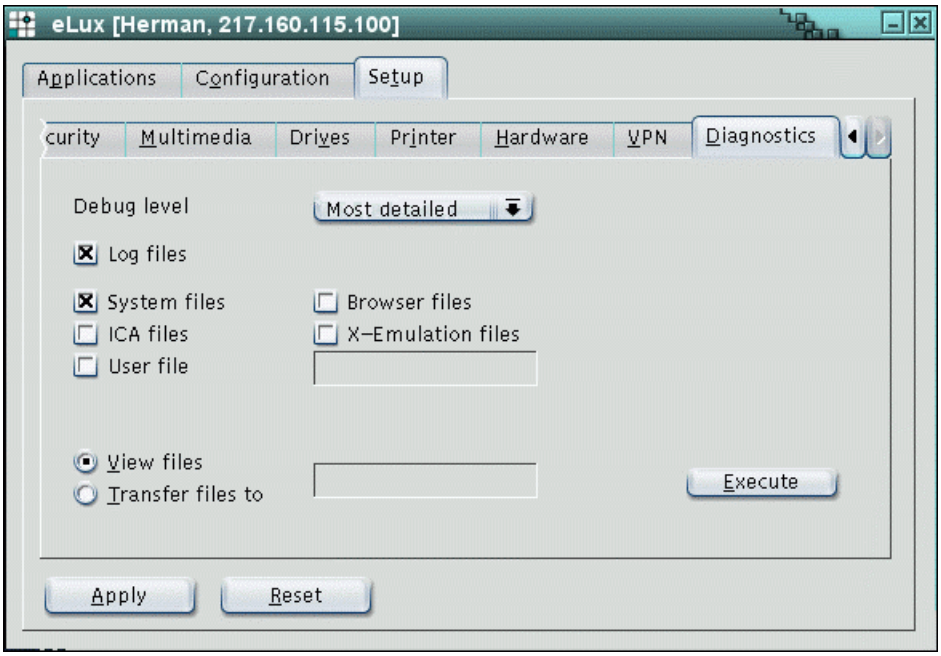


Figure 65: Diagnostics tab

This subtab is for diagnostic purposes. You can either view a single file, view groups of files, or you can send files to an FTP server.

⇨ To configure diagnostics

From the **Setup** tab, click the **Diagnostics** subtab.

1. To view a single file, you must know its path on the Thin Client. Select the **User file** check box and enter the complete path including path name in the box. (The file name is generally provided by your servicer during a diagnostic procedure.)
   Example: `/setup/ica/wfclient.ini`.
   To view the file, click **Execute**.
2. For ease of use, you can choose to select preprogrammed groups of files. For example, the check box **ICA files** displays the file “appsrv.ini” in addition to the file “wfclient.ini”. In this case, you do not need to know the file path.
   - **Log files**: eLux NG log files. Displays the files diag.txt, eluxd.log and elux_starter.log. Note: The level of eLux NG logging detail is set in **Debug level**. **None** means the logs eluxd.log and elux_starter.log will not be generated. You must reboot the Thin Client for changes in eLux NG logging detail to take effect.
   - **System files**: System configuration files, including the update log (eluxman.log).
   - **ICA files**: ICA configuration files.
   - **Browser files**: Configuration files for Opera, Mozilla or Firefox browsers.
   - **X-Emulation files**: The trace files written by one of the X-Emulations – X97, X32 or X52 – are binary and cannot be displayed. However, they can be sent to an FTP server. See step 3.

   To view the files, click **Execute**.

3. To send files to an FTP server, select the desired files, select the **Transfer files to** check box, enter the URL of the destination directory, and click **Execute**.

   Format: `ftp://<FTP server>/<path>`

   or `ftp://<username>:<password>@<FTP server>/<path>`

   Navigation

   When viewing the files, if you do not have a scroll bar, you still have the following scrolling options:

   - Keys: PAGE UP and PAGE DOWN, HOME and END
   - Mouse: Click anywhere in the text and drag above or below the window frame to shift the focus

4 Configuring Applications

This chapter describes how to define an application that runs locally or how to connect to a remote server.

Section	Description
4.1 Introduction	Introduction to local applications and session clients, description of the **Application definition** tab, standard tab options
4.2 ICA Terminal Session	How to configure the Citrix ICA Client and connect to a Citrix MetaFrame server
4.3 Accessing Citrix Published Applications	Different configuration possibilities for connecting to a Citrix ICA published application
4.4 RDP	How to connect to a terminal server via RDP
4.5 Internet	How to configure a local browser (Opera, Mozilla or Firefox) and available Web tools
4.6 SAPGUI	How to configure the SAPGUI client
4.7 Emulation	How to configure a session to connect to a mainframe
4.8 Local	How to configure a local shell, user commands and desktop accessories that run locally

4.1 Introduction

eLux NG offers you two types of application possibilities:

- remote
- local

The main employment area of a Thin Client is as a terminal in server-based computing. “Remote” means the application runs on a server, such as a Windows application on a terminal server. Even when an application runs remotely, client-side software is still required to initiate and maintain a session.

By nature, the Thin Client has limited resources, meaning the majority of applications will be server based. However, in addition to server applications eLux NG also offers a variety of local applications. “Local” means the application runs directly on the Thin Client. Local applications include browser software (Opera, Mozilla, Firefox), local shell (XTerm), and desktop tools (resource information, calculator, CD player). This software is provided free of charge and can be downloaded from www.myelux.com or copied from the eLux NG CD-ROM.

This chapter describes how to configure both local applications and session clients. In addition, further configuration may be required in the application itself. For further information on configuring session clients (such as SAPGUI or Citrix ICA), please consult the manufacturer’s product documentation.

Configuration takes place in the **Configuration** tab.

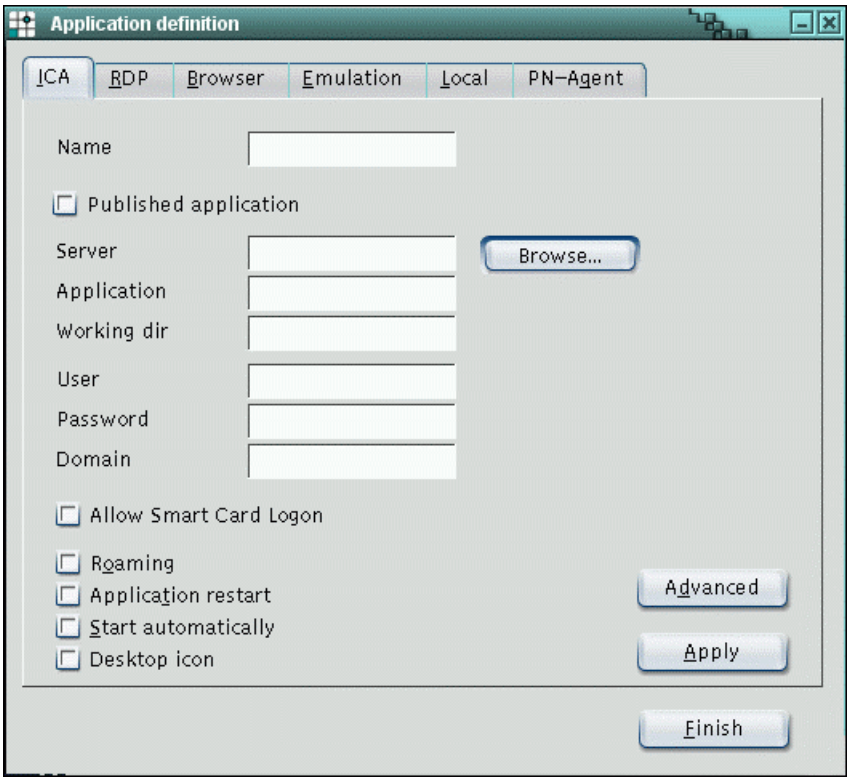


Figure 66: Application definition dialog box

⇨ To configure a local application or session client

1. From the **Configuration** tab, click **New**. This opens the **Application definition** dialog box, which contains a number of subtabs.
2. Click the tab for the application you want in the **Application definition** dialog box.

Note: If the application you want does not appear as a tab, the required firmware is not installed on the Thin Client. Contact your network administrator.

3. Configure the application (see details in the following sections).
4. Click **Finish** in the **Application definition** dialog box.

Standard options:

- **Start automatically** The session will be started when the terminal starts.
- **Application restart** The session will be reconnected after a user logs off (so-called “terminal mode”). In addition, the session will be started when the terminal starts.
- **Desktop icon** Creates a desktop shortcut for this application on the eLux NG desktop. Note: Not available for Program Neighborhood Agent.

Additional options are application specific, for example, kiosk mode for a browser.

As long as the dialog box **Application Definition** is open, you cannot start any applications or activate the **Setup** tabs.

Use the task hotkey CTRL + ALT + <*cursor*> to jump between open eLux NG dialog boxes:

- CTRL + ALT + ↓: Left selection in the Applications bar
- CTRL + ALT + ↑: Right selection in the Applications bar

To start an application, from the **Applications** tab either double-click the application you want, or click to select the application and click **Connect**.

When the user shuts off the device, remote applications continue to run on the server. For this reason, it is important that the administrator either set a server-side time-out for logging off inactive accounts or instruct users to quit from within the session rather than click the eLux NG **Disconnect** button.

You can modify an existing application configuration by clicking **Edit**. Click **Delete** to remove an application configuration.

4.1.1 Copying Between Applications

eLux NG has a clipboard that allows you to copy between applications running locally on the client and applications running remotely in a server session. Access to the local clipboard requires no special procedures; using the familiar cut, copy, and paste commands, you can transfer text back and forth between most local and remote applications.

In general, this works for terminal server sessions and ICCCM compliant X window applications running on the eLux NG desktop. Note: Due to the differences in applications this may not work in every case.

To copy text:

Applies to copying between Citrix ICA, RDP and X window applications (such as local programs):

1. In the terminal server session (for example, Citrix) use the relevant copy command in the application.
2. Use the task key to switch to the local program (for example, Mozilla).

   For more information on the task key, see “3.3 Desktop.”
3. Use the relevant paste command in the local program.

   Tip: To copy in XTerm, click the middle mouse button.

To copy graphics:

Applies to copying between Citrix ICA and an X window application:

- Use the program xcapture described in “4.2.10 Tool xcapture.”

4.2 ICA Terminal Session

Independent Computing Architecture (ICA®) is used to connect to a Windows terminal server running Citrix® MetaFrame® software. You can then access all Windows applications residing on the terminal server.

You have the following two configuration possibilities when connecting to a specific MetaFrame server: remote desktop or Windows application. In addition, this chapter discusses the Citrix ICA Client for Linux, which allows you to set advanced ICA client settings.

Configuring a session to connect to a published application is discussed in chapter “4.3 Accessing Citrix Published Applications.”

4.2.1 Remote Desktop

A remote desktop session allows you access to the desktop of a MetaFrame server. You can run any applications available on the desktop, in any order.

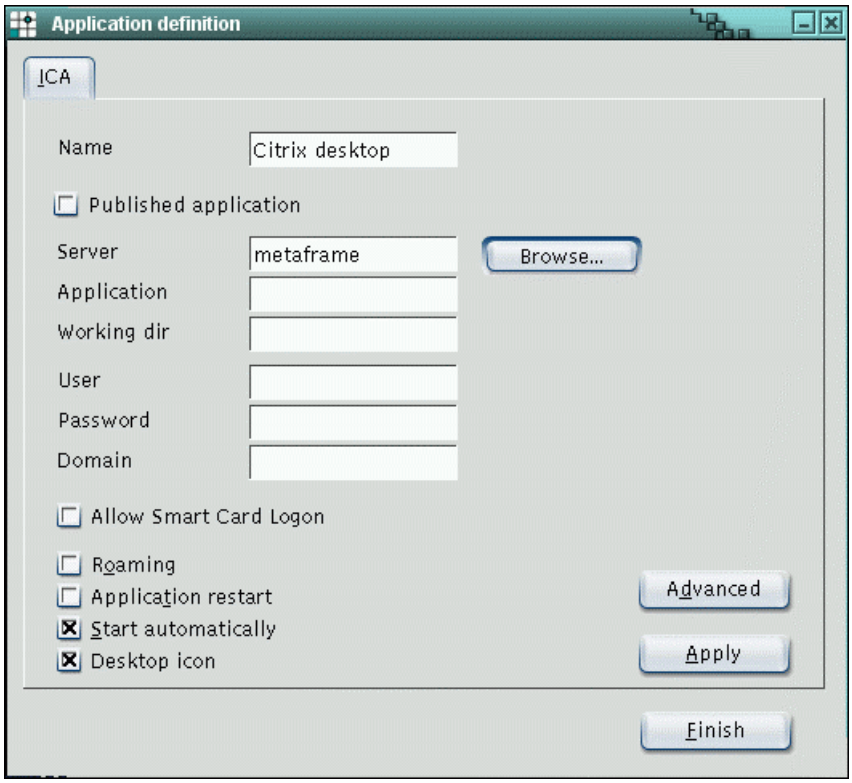


Figure 67: ICA configuration – Remote Desktop

⇨ To configure a remote desktop session via ICA

From the **Configuration** tab, click **New**.

1. The **Application Definition** dialog box appears. Click the **ICA** tab.
   - **Name**: Enter an appropriate name for this application, such as “Remote desktop”.
   - **Published application**: Leave deselected.
   - **Server:** Enter the IP address (or name) of the MetaFrame server.
   - **Application:** Leave blank
   - **Working dir:** Leave blank
   - **User, Password, Domain:** Enter to automatically log on to the terminal server.
   - **Allow smart card logon:** See section “3.15.4 Citrix Logon”
   - **Roaming:** See section “4.2.3 Smart Card User Roaming”

- **Application restart:** Immediately reconnects after the user logs off. When this feature is selected, the application automatically starts when the Thin Client starts or restarts.
- **Start automatically:** Click this check box to open the session when the terminal starts.
- **Desktop icon** Creates a desktop shortcut for this application on the eLux NG desktop.

2. **Advanced**: See “4.2.4 Citrix ICA .”
3. Click **Apply** and **Finish**.

4.2.2 Microsoft Windows Application

This section describes how to configure a session to a Windows application running on a specific MetaFrame server.

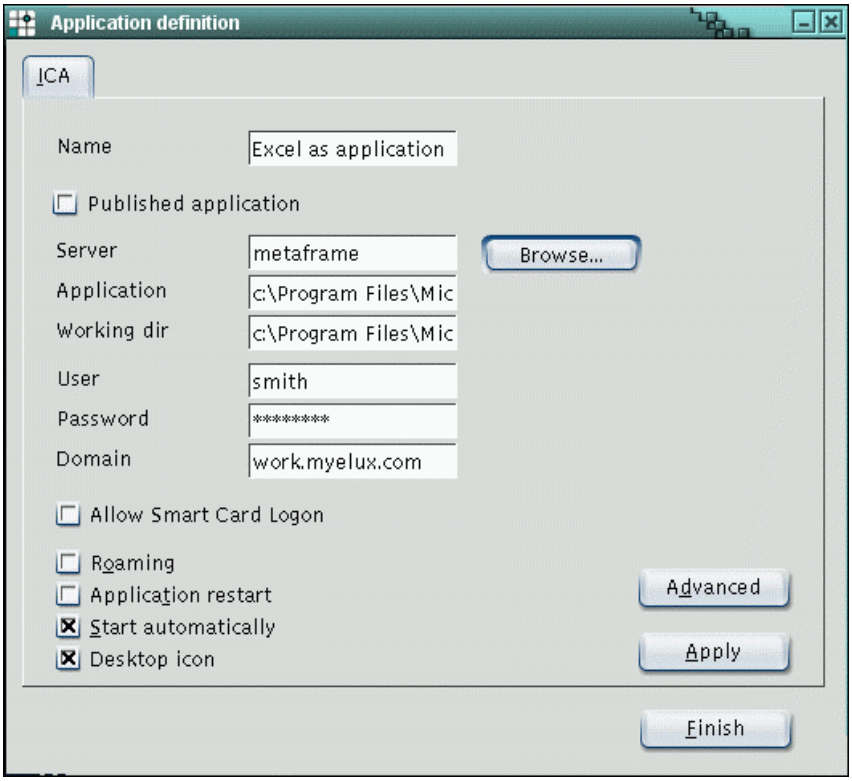


Figure 68: ICA configuration – MS Windows application

⇨ To configure a connection to a Microsoft Windows application via ICA

From the **Configuration** tab, click **New**. The **Application Definition** dialog box appears. Click the **ICA** tab.

The parameters are the same as in “4.2.1 Remote Desktop” with the following exceptions:

- **Name**: Enter an appropriate name for this application, such as “MS Excel” for Microsoft Excel.
- **Application:** Name of the Windows application (for example, notepad.exe), including path, for example,
  `c:\Program Files\Microsoft Office\Office\EXCEL.EXE`
- **Working dir:** (optional) Enter the working directory of the Windows application.

4.2.3 Smart Card User Roaming

For user roaming, you need a smart card (containing user information) and a valid PIN. The user information is sent to the ICA server and logon takes place automatically. If the smart card is removed, the session is automatically disconnected and the Thin Client is locked. The applications on the server remain open. If you enter the smart card and PIN on a different Thin Client, the connection is restored. This allows you to "transfer" sessions from one Thin Client to another.

For more information, see "3.15.3 User Roaming."

4.2.4 Citrix ICA Client for Linux – Advanced Citrix ICA Settings

Using Citrix ICA, you can access server-specific applications or published applications. Other features include:

- Client drive mapping
- Client printer mapping
- COM port mapping
- Low bandwidth requirements
- Citrix ICA Client hotkeys
- Seamless Windows support
- Program Neighborhood Agent
- 128-bit SSL support

Note that some of these features are server specific.

Configuration of advanced ICA settings is done by clicking the **Advanced** button in an ICA application definition.

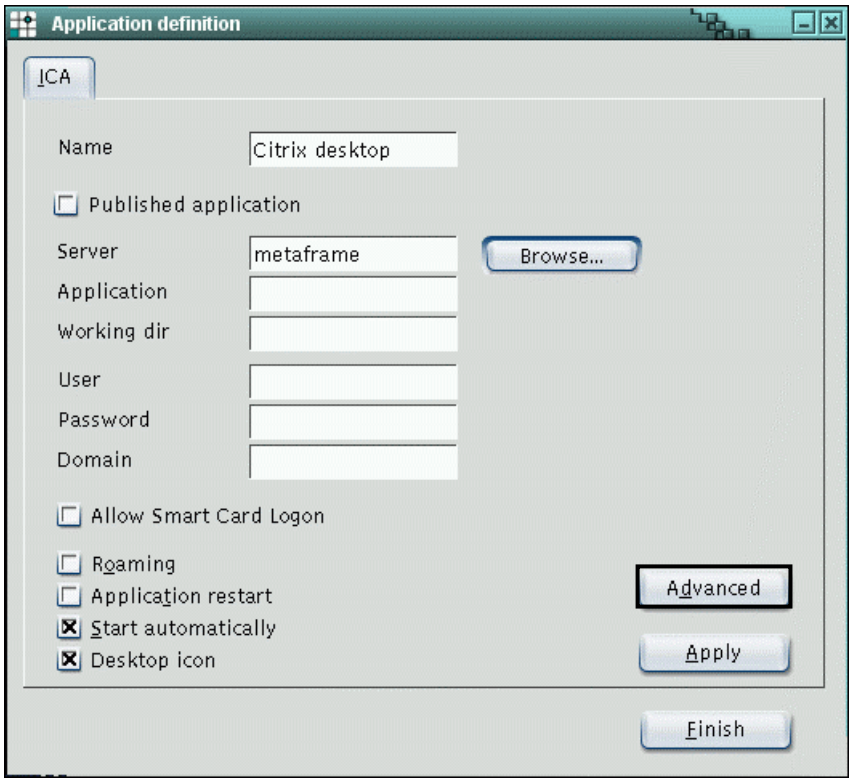


Figure 69: Accessing Citrix advanced settings

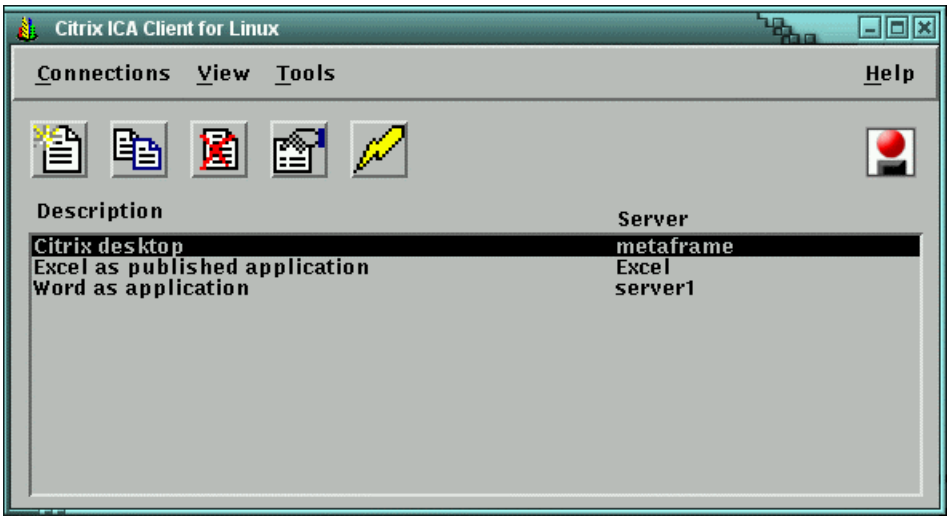


Figure 70: Citrix ICA Client dialog box

This opens the ICA Client for Linux, which is software from Citrix and has a different look than the eLux NG starter.

In Connection view, you see a list of all ICA connections. ICA sessions defined in eLux NG are automatically entered in the Citrix ICA Client. You do not have to redefine them here.

If you do not see a list of ICA connections, you may not be in Connection view. In the **View** menu, click **Connection View** to switch to Connection view. PNAgent view is described in chapter “4.3.4 Via Program Neighborhood Agent.”

Warning Do not define a new ICA session in the Citrix Client! Define new sessions in the eLux NG **Configuration** tab. If you define new sessions in the Citrix Client, they will not be accessible via the eLux NG **Applications** tab!

The configuration file for the Citrix ICA Client for Linux is named “wfclient.ini” and resides on the Thin Client under: `/setup/ica/wfclient.ini`

This file can easily be viewed using the **Diagnostics** tab > **ICA files**.

Published applications, a feature commonly in use with MetaFrame server farms, are discussed in a separate chapter: “4.3 Accessing Citrix Published Application.”

Drive mapping, COM port mapping and server location are discussed in the following sections. For further information on configuring the Citrix ICA Client, please consult the Citrix documentation.

4.2.5 Client Drive Mapping

Client drive mapping allows a remote application running on the MetaFrame server to access a floppy, CD-ROM and USB drives from within an ICA session. You then have access to locally stored files during an ICA session. Note: The MetaFrame server must be configured to allow client drive mapping.

- **Internal floppy** No further configuration is necessary.
- **Internal CD-ROM** No further configuration is necessary.
- **USB drive** Configuration necessary.

Two CD-ROM drives can be in use at the same time (IDE internal and USB external).

Two floppy drives can be in use at the same time (IDE internal and USB external).

By default, the IDE floppy or CD-ROM drive is mapped. However, the USB drive is not. How to map USB drives is described below.

⇨ To map USB client drives to an ICA session

1. Due to security reasons, the USB port is not activated. Go to the **Hardware** tab, select the **USB mass storage devices** check box and save the settings.

2. Connect the USB device to the Thin Client.

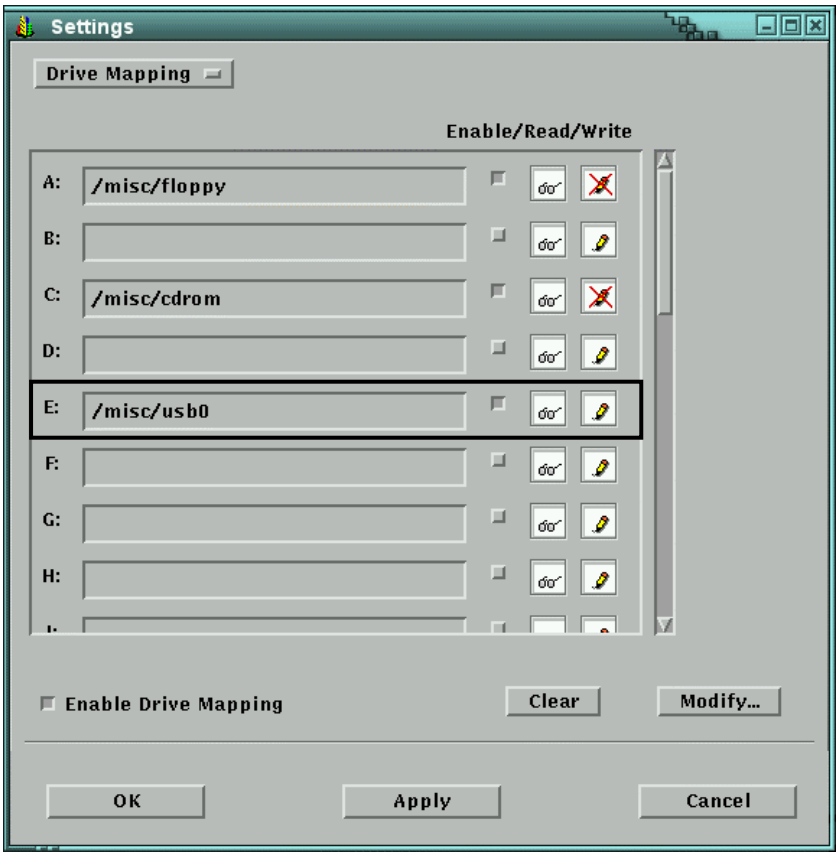


Figure 71: Citrix ICA Client for Linux – Drive Mapping

3. To make the external drive accessible in an ICA session, in the ICA client (**Configuration** > **ICA** > **Advanced**) click **Tools** > **Settings** > **Drive Mapping**. Enter the mount point (see section “3.9.5 Mount points”) in the drive of your choice (we

recommend drive E or later) and set it to read-only (if required). Click **Apply** and **OK** to save the advanced ICA parameters.

4. At this point, you can connect to the MetaFrame server. The client drive appears in Windows Explorer under the letter you mapped it to.

For more information, see “3.9 Drives” and “3.12 Hardware.”

Troubleshooting

Do not configure advanced ICA settings for an open or disconnected session! Log off first.

If the desired client drive does not appear in the ICA session, and you have multiple USB devices attached to the Thin Client, check that the mount point you used is correct.

4.2.6 COM Port Mapping

Client COM port mapping allows devices attached to the Thin Client’s serial ports to be used from ICA sessions on a MetaFrame server. This allows local devices like modems, serial printers, and bar-code scanners to be used by applications running on the MetaFrame server.

To map a COM port, you must know the device name of the serial port on the client.

The serial port device name always begins with “/dev”:

- /dev/ttyS0 : external serial port
- /dev/ttyS1 : internal serial port
- /dev/usb/tts/0 : USB v. 24 converter (PL2303 chip only)

Note: Device names are case sensitive. The letters shown here in lower case must be typed in lower case.

Which serial ports are available depends on your hardware platform.

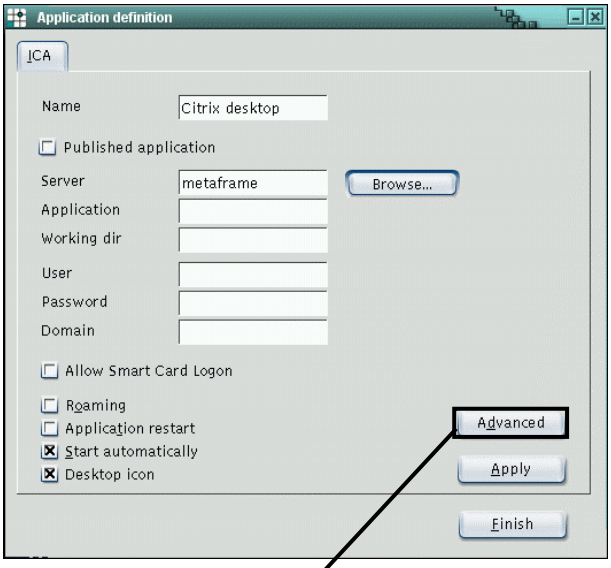
To map a Thin Client COM port to an ICA session, first configure the advanced ICA settings in the eLux NG starter, then configure the Citrix MetaFrame ICA server settings.

⇨ To map a COM port from a Thin Client to an ICA session

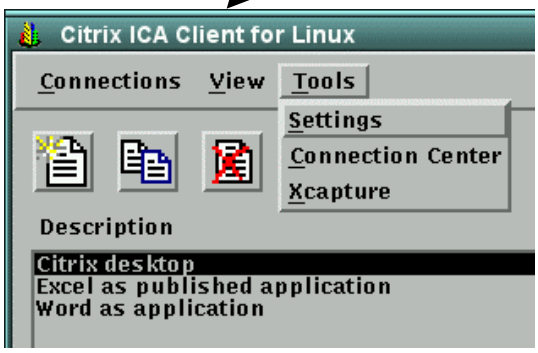
As an example, we will map the internal serial port (COM2 on the Thin Client).

1. eLux NG starter

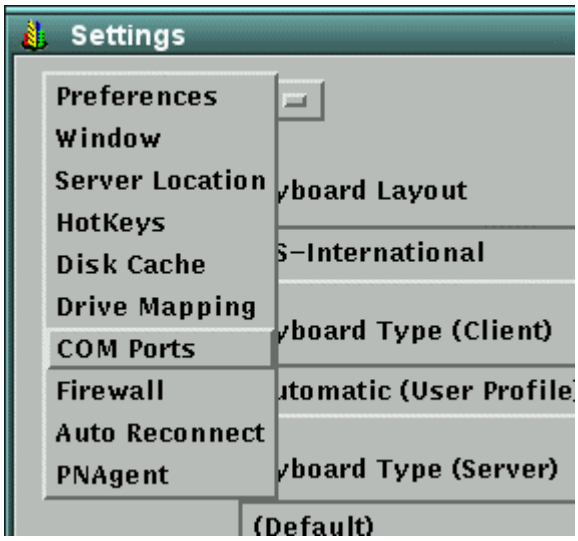
- In the eLux NG starter **Configuration** tab, click **New** and select **ICA**.
- Fill out the ICA application definition as described in “4.2.1 Remote Desktop.”
- Click **Advanced**. This opens **Citrix ICA Client for Linux** dialog box.



- From the **Tools** menu, select **Settings**.



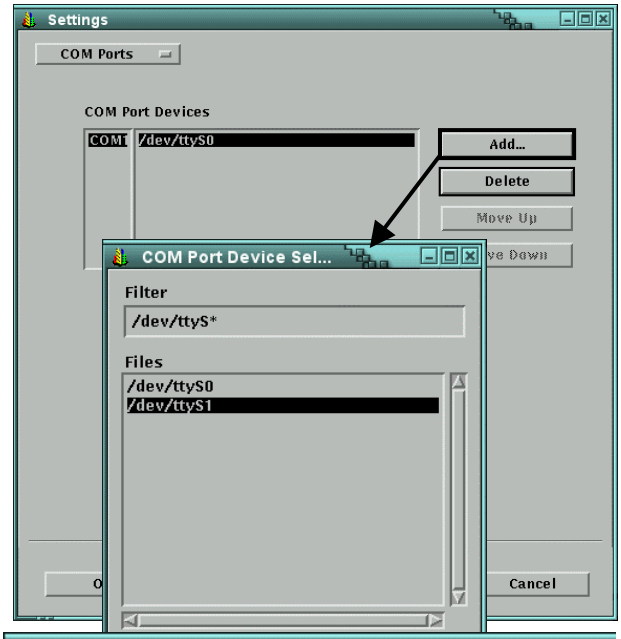
- In the **Settings** dialog box, from the **Preferences** drop-down list select **COM Ports**. This opens the window for COM port settings.



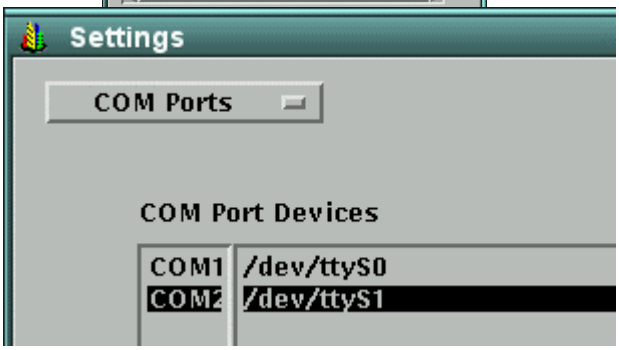
- The window for COM port settings displays the COM ports that have been defined on the Thin Client. In the figure, COM1 has been defined as `/dev/ttyS0`.

- To define a new COM port on your Thin Client, click **Add**. This opens the **COM Port Device Selection** dialog. All available COM ports on your Thin Client are displayed.

  Select the desired port. In our example, we use `/dev/ttyS1` for the internal V24 port. Click **OK**.



- A new COM port will appear, numbered automatically in ascending order. If this is the second port you have entered, it will be named COM2.



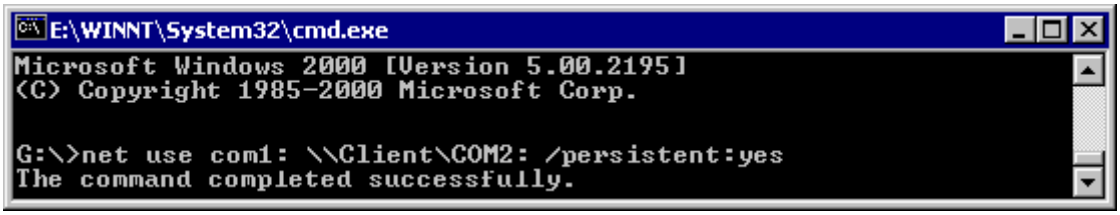
2. Citrix MetaFrame ICA server

- Connect to your MetaFrame server and open a command shell.
- To map the Thin Client COM port to the COM port on the MetaFrame server, use the following format:

  `net use <ICA port>: \\Client\<Thin Client port>: /persistent:yes`

  <*ICA port*> : local port on MetaFrame server
  <*Thin Client port*> : remote port on Thin Client

  Example:
  `net use com1: \\Client\COM2: /persistent:yes`


E:\WINNT\System32\cmd.exe
Microsoft Windows 2000 [Version 5.00.2195]
(C) Copyright 1985-2000 Microsoft Corp.
G:\>net use com1: \\Client\COM2: /persistent:yes
The command completed successfully.

3. Following are useful commands:
   net use : To view the mapping (for a drive, printer, COM port, etc.)
   mode com1: : To view the parameters
   mode /? : To change parameters
   net use /help : To view man pages

Normally the port parameters are set within your application.

This procedure should work with all COM port based synchronizing software. For example, if your personal digital assistant (PDA) software synchronizes with the COM port, map it within the ICA session using the procedure described above.

To set COM port settings, see “3.12.4 COM Ports.”

4.2.7 Handhelds

You can access handheld computing devices (such as personal data assistants, PDAs) within an ICA session by mapping the serial connection. In addition, you need third-party server synchronization software.

Requirements

eLux NG supports the following PDAs:

- palmOne™ Tungsten™ 3 und 5
- palmOne™ Tungsten™ E
- iPAQ pocket PC 2003
- Pocket Loox from Fujitsu Siemens Computers and others

Required software:

- Administration and client software. This is included with your handheld.
- For all Tungsten handhelds:
  OneBridge Sync server v. 4.2 or later (part of the OneBridge Mobile Groupware) from Extended Systems, Inc. This must be purchased separately.
- For all Pocket PCs:
  Microsoft Active Sync (free) or others

Procedure

To access Microsoft applications from the handheld (for example, Lotus Notes) within a Citrix ICA session:

1. Install the required firmware on the eLux NG device
2. For Tungsten: Install the OneBridge Sync server on a PC
3. For Tungsten: Install the OneBridge Sync client on the MetaFrame server
4. Install the client software on the PDA
5. Map the COM port
6. Access the handheld within an ICA session

Installing the required driver on the eLux NG device

Install the following firmware on the eLux NG device using the image editor ELIAS NG. For more information, see the *ELIAS NG Administrator's Guide*.

- Handheld driver. This is a component of the base OS. Only one handheld driver can be installed at a time. Install one of the following:
- **Tungsten** "USB Handspring Visor, Palm driver" (visor)
- **iPAQ** "USB Compaq iPAQ driver" (ipaq) – included in the BaseOS
- "ICA Client" (ica)

Installing the OneBridge Sync server on a PC

The OneBridge Sync server runs as a service on Windows NT or Windows 2000 Server, allowing users to synchronize their mobile device. Version 4.2 or later is required The OneBridge Sync server is required third-party software that must be purchased separately.

For information on purchasing and installation, see www.extendedsys.com.

Installing the OneBridge Sync client on the MetaFrame server

The OneBridge Sync client must be installed on your MetaFrame server you plan to connect to.

For information on purchasing and installation, see www.extendedsys.com.

Installing the client software on the PDA

Use the CD and documentation that came with the PDA to install the client on the PDA.

Mapping the COM port

Configure COM port settings as described in "4.2.6 COM Port Mapping."

In the **COM Port Device Selection** dialog enter the following parameter:

- Tungsten: `/dev/palm/0`
- iPAQ: `/dev/usb/tts/0`
- USB v. 24 converter (PL2303 chip only): `/dev/usb/tts/0`

When you use the `net use` command, write down the COM port number you mapped to on the MetaFrame server.

Accessing the handheld within an ICA session

1. In the eLux NG starter, configure a remote desktop ICA session.
   - For more information, see "4.2.1 Remote Desktop."
2. Start the session (**Applications** > **Connect**). The Windows desktop appears.
3. In the ICA session, start the OneBridge Sync client and go to the Desktop Connector. Select the COM port number you mapped to on the MetaFrame server and click **Enable**.

   Note: This only needs to be performed once. Settings will be saved for future sessions.
4. Perform the desired operations with the handheld.

4.2.8 Server Browsing

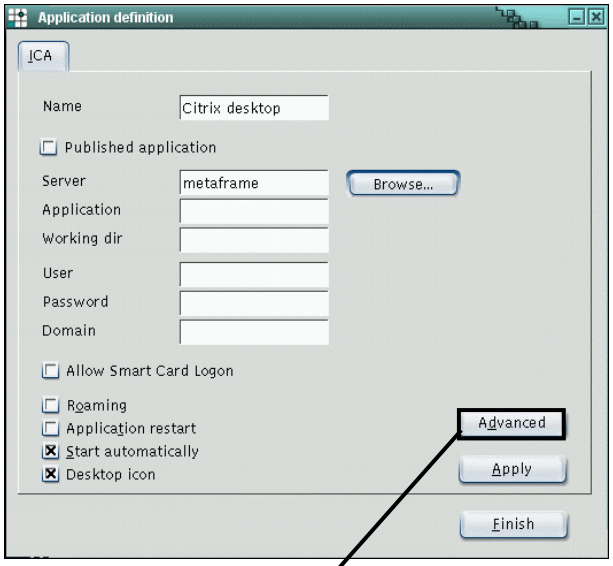
Server location (also called server browsing) in the Citrix ICA Client for Linux permits one-click access from the ICA application definition to all MetaFrame servers on the network, or a list of all published applications. To use this feature, the software “Utils for ICA Client“ (icautils) must be installed. It is located in the “ICA client” (ica) package. In addition, the MetaFrame servers must have server connections configured for the specific network protocol.

First configure the Citrix ICA Client for Linux, then configure the ICA application in the eLux starter.

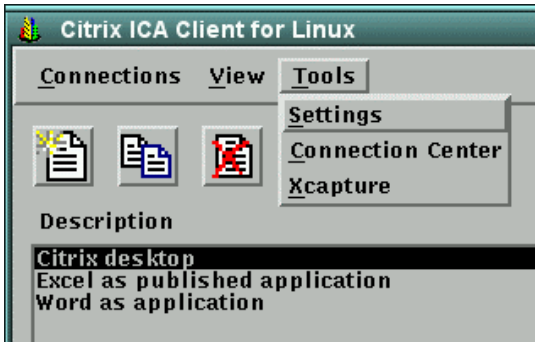
⇨ To configure the Citrix ICA Client for Linux

Global server location:

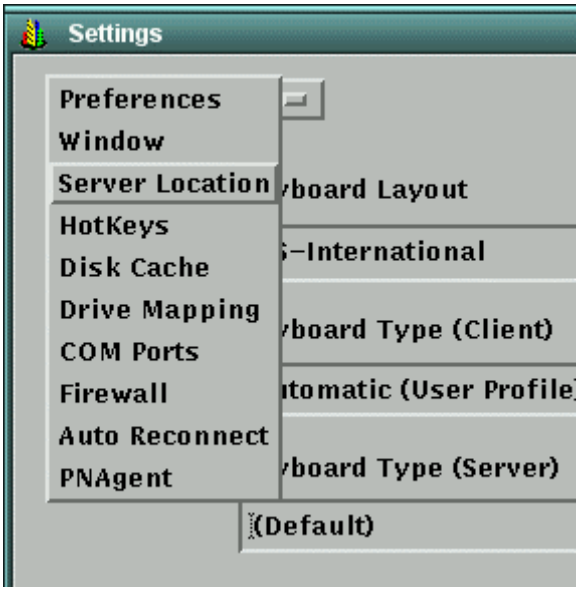
1. In the eLux NG starter **Configuration** tab, click **New** and select **ICA**.
2. Enter a name for this ICA application.
3. Click **Advanced**. This opens **Citrix ICA Client for Linux** dialog box.



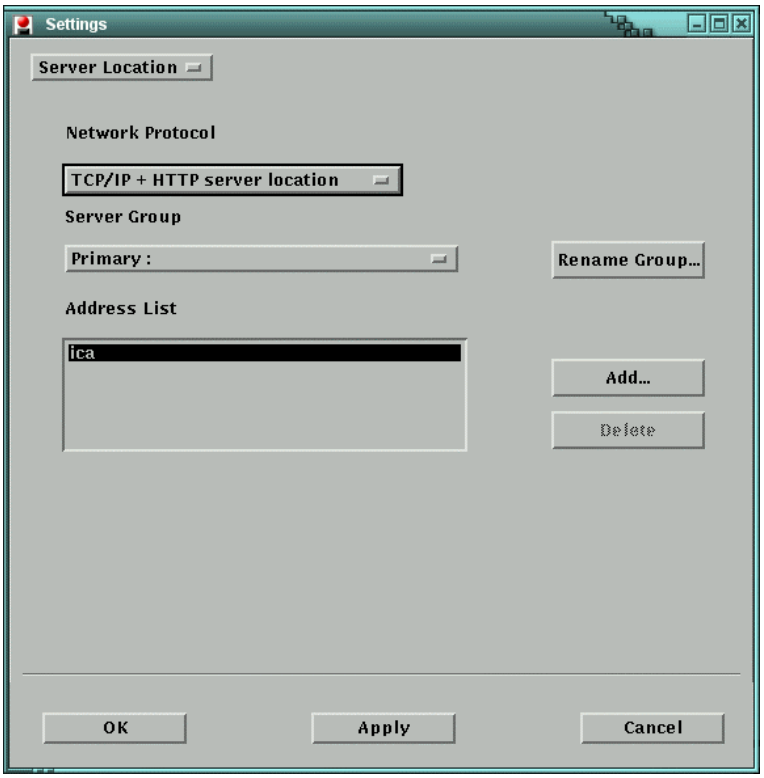
4. From the **Tools** menu, select **Settings**.



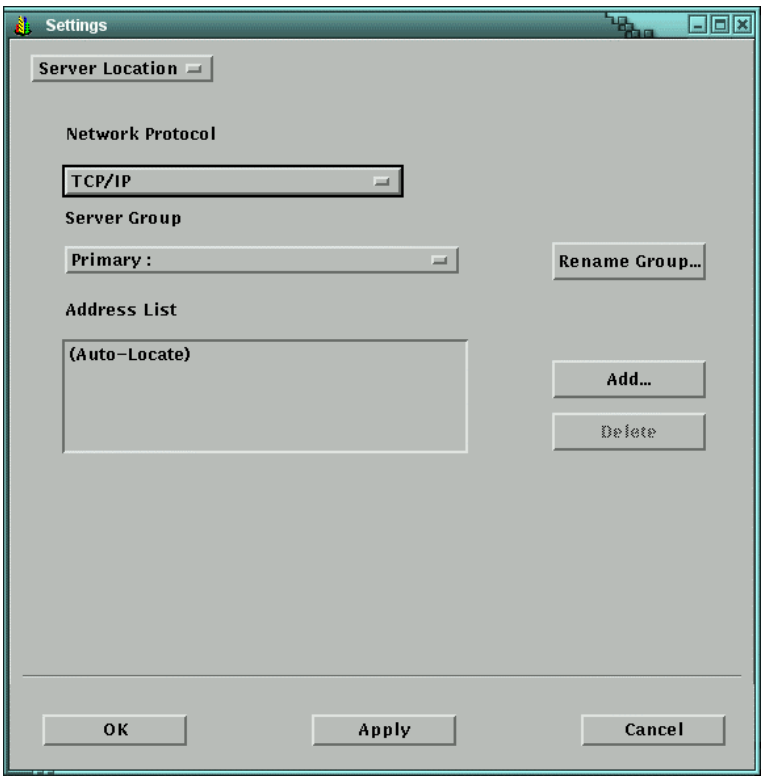
5. In the **Settings** dialog box, from the **Preferences** drop-down list select **Server Location**. This opens the window for the server location settings.



6. Select the network protocol and/or enter one or more servers. The way in which server location works depends on which network protocol is configured:



- **TCP/IP+HTTP** The Citrix ICA Client for UNIX uses the HTTP or HTTPS protocol to contact MetaFrame servers. The default server address is `ica.`<*domain name*>, where <*domain name*> is a TCP/IP domain name. Alternatively, you can set specific addresses for MetaFrame servers.

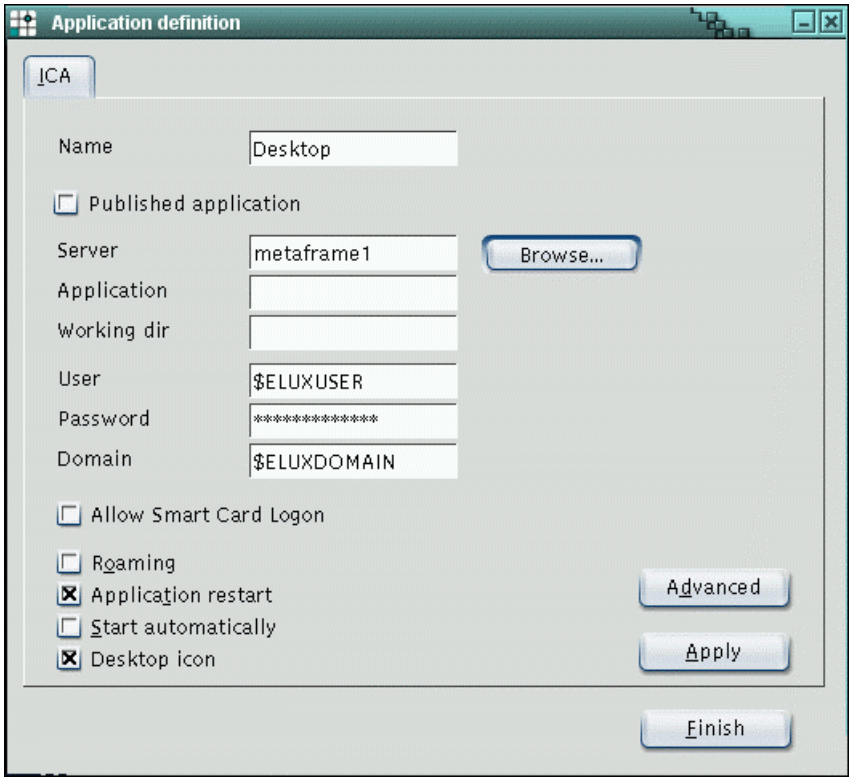


- **TCP/IP** – By default, the UNIX client attempts to contact all of the servers on the subnet by broadcasting on the UDP protocol (auto-locate). Alternatively, you can set specific addresses for MetaFrame servers.

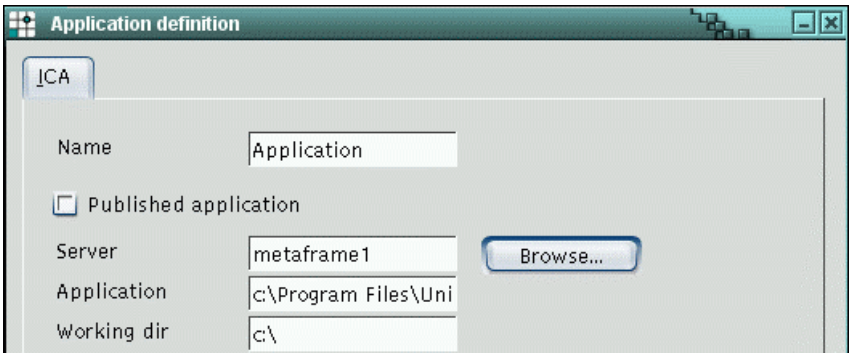
7. Click **Apply** and **OK** to save your settings and close the dialog box.

After setting a global server location, configure the ICA application definition.

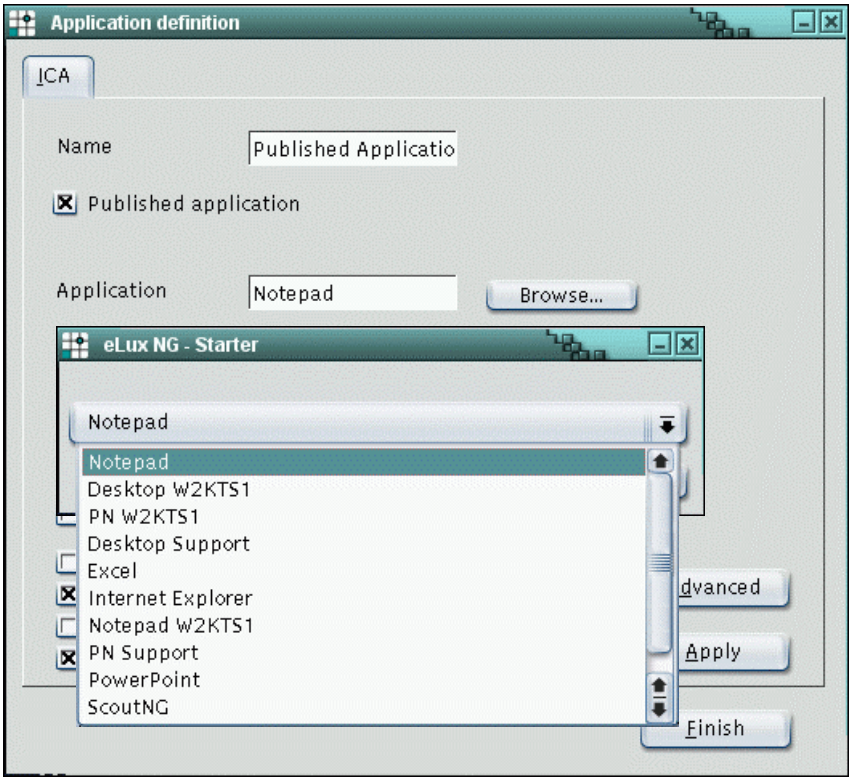
From the **Configuration** tab, click **New**.



- **Remote desktop** The parameters are described in “4.2.1 Remote Desktop.” Choose the server from the drop-down list by clicking **Browse**. All MetaFrame servers currently on the network configured for that protocol will be displayed.



- **Application** After choosing the MetaFrame server, enter the complete path of the desired Windows application. A working directory is optional. See “4.2.2 Microsoft Windows Application.”



- **Published application** The parameters are described in “4.3.1 Via Application Definition.” Choose the application from the drop-down list by clicking **Browse**. All applications currently published on that MetaFrame server will be displayed. Note: This is one method for connecting to published applications. For a detailed description of other methods, see chapter “4.3 Accessing Citrix Published Applications.”

4.2.9 Citrix Secure Gateway

You can use certificate-based server authentication to ensure that the server you are connecting to is genuine.

To use Secure Sockets Layer (SSL) or Transport Layer Security (TLS) to connect to a Citrix Secure Gateway server, you need a root certificate on the client machine that can verify the signature of the Certificate Authority (CA) on the server certificate. The following CA certificates are automatically installed with the Citrix ICA client:

Certificate	Issuing Authority
Class3PCA_G2_v2.crt	VeriSign Trust Network
Class4PCA_G2_v2.crt	VeriSign Trust Network
BTCTRoot.crt	Baltimore Cyber Trust Root
GTECTGlobalRoot.crt	GTE Cyber Trust Global Root
GTECTRoot.crt	GTE Cyber Trust Root
Pcs3ss_v4.crt	Class 3 Public Primary Certification Authority
SecureServer.crt	Secure Server Certification Authority
TC_RootServer_DER_Class2.crt	Class 2 TC TrustCenter Certification Authority

Figure 72: CA certificates for Citrix ICA

You are not required to obtain and install root certificates on the client machine to use the certificates from these CAs. However, if you choose to use a different CA, you must obtain and install a root certificate from the CA on each client machine.

Warning Certificate key lengths of greater than 2048 bits are not supported by the Citrix ICA Client for Linux. Ensure that the bit lengths of the CA root certificates, intermediate certificates and server certificates do not exceed this size.

Save root CA certificates to /setup/cacerts.

Note Sometimes the Citrix literature tells you to save the CA certificate to the client directory /usr/lib/ICAClient/keystore/cacerts. This directory is read-only. Save it to /setup/cacerts instead. A symbolic link will refer the program to the correct directory.

Certificates can be transferred to many clients using Scout Enterprise file transfer feature.

For more information on the Scout Enterprise management tool, see the *Scout Enterprise Administrator's Guide*.

4.2.10 Tool xcapture

To use this feature, you must have the "Utils for ICA Client" (icautils) package installed. It is located in the "ICA client" (ica) package.

The Citrix ICA Client for Linux includes a helper application, xcapture, that allows you to exchange graphical data between the MetaFrame server clipboard and non-ICCCM-compliant X Windows applications on the X desktop. You can use xcapture to:

- Grab dialog boxes or screen areas and copy them between the UNIX desktop (including non-ICCCM-compliant applications) and an application running in an ICA Client window.

⇨ To configure xcapture

From the **Configuration** tab, click **New**.

1. The Application Definition dialog box appears. Click the **Local** tab.

Name	Enter an appropriate name for this application.
Application	Click **Customized**.
Parameter	Enter `/usr/lib/ICAClient/util/xcapture`
Hidden	Does not display the application in the **Application** tab.
Application Restart	Click to select to immediately reconnect after the user logs off. When this feature is selected, the application automatically starts when the Thin Client starts or restarts
Start automatically	Click this check box to open the session when the terminal starts.
Desktop icon	Creates a desktop shortcut for this application on the eLux NG desktop.

2. Click **Finish**.

From the **Applications** tab, double-click or use the **Connect** button to run xcapture.

How to use xcapture

1. From the **xcapture** dialog box, click **From screen**. The cursor changes to a crosshair.
   - **Select a window** Move the cursor over the window you want to copy and click the middle mouse button.
   - **Select a region** Hold down the left mouse button and drag the cursor to select the area you want to copy.
2. From the **xcapture** dialog box, click **To ICA**.

   The xcapture button changes color to show that it is processing the information.
3. When the transfer is complete, switch to the ICA session. Use the paste command to insert the contents of the clipboard in the application.

4.3 Accessing Citrix Published Applications

A connection to a published application lets a user access a predefined application and its associated environment. Published applications can be run in seamless mode, where the applications appear to the Thin Client as if they were running locally, each application running in its own resizable window.

Published applications require server-side and client-side configuration. In this section, we will discuss client-side configuration.

4.3.1 Via Application Definition

You can configure a session to access a published application via the eLux NG starter. Note: You must know the application name exactly as it is published on the server.

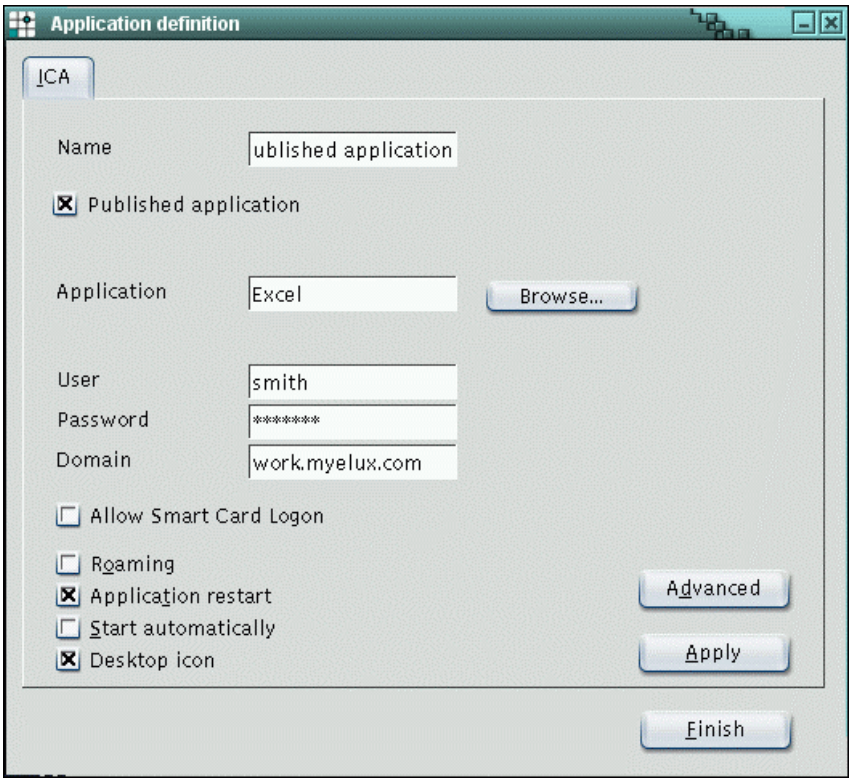


Figure 73: ICA configuration – Published application

⇨ To configure a published application session via eLux NG starter

The parameters are the same as in “4.2.1 Remote Desktop” with the following exceptions:

- **Name**: Enter an appropriate name for this application, such as “MS Excel” for Microsoft Excel.
- **Published Application**: Select.
- **Application:** Enter the name exactly as it is published on the MetaFrame server.

Server location (also called server browsing) provides a method for users to view a list of all published applications. See section “4.2.8 Server.”

4.3.2 Via Citrix ICA Client for Linux

Alternatively, you can search for available published applications in the **Citrix ICA Client for Linux**. When you are done, the parameters will automatically be transferred to eLux NG.

For an overview of the Citrix ICA Client for Linux, see “4.2.4 Citrix ICA .”

⇨ To configure a published application in Citrix ICA Client for Linux

From the **Configuration** tab, click **New**.

1. The **Application Definition** dialog box appears. Click the **ICA** tab.

- **Name**: Enter an appropriate name for this application.

2. Click **Advanced**. The **Citrix ICA Client for Linux** opens.
3. Select the session you want to configure.
4. Click **Connections** > **Properties** > **Network**.
5. Select the check box **Published Application**. Type the name of the published application or select the name from the pop-up menu to the right of the **Server** field.

Note If no applications appear, check that the browser protocol is correct.

6. In the **Properties** dialog box, click **OK**.
7. Exit the **Citrix ICA Client for Linux** to return to the eLux NG ICA application definition. The published application parameters are automatically entered in the eLux NG ICA application definition.
8. Click **Apply** and **OK**.

4.3.3 Via Web Interface

You can launch published applications from a local browser using the Web Interface for MetaFrame XP® (formerly called “NFuse Classic”).

Required software: browser software (Opera, Mozilla or Firefox) and Citrix ICA Client version 7.x

⇨ To access a published application via local browser

1. Configure a local browser, as described in “4.5.1 Local Browser.”
   - **Name**: Enter an appropriate name for this application.
   - **Start page**: Enter the URL used to access your Web Interface (ask your Citrix administrator). Common formats are:
     `http://`*<server name>* or `http://`*<server name>*`/Citrix/Nfuse`
   - **Proxy type** Choose one of the following:

     No proxy: If you don’t use a proxy server.

     Manual (Proxy:Port): If you use a proxy server, enter it in the format:
     <proxy server IP address or name>:*<port number>*.

     Auto (URL): If you use an automatic proxy configuration file.
     Example: `http://www.yourserver.com/autoproxy.pac`
   - **Browser type:** Select the browser you want: Opera, Mozilla or Firefox.
   - **Kiosk mode:** Leave unchecked.
2. Start the browser from the eLux NG **Applications** tab. The Web Interface appears. Enter your credentials to log on.
3. After successful logon, a list of published applications is displayed. Click on an application to start it.

4.3.4 Via Program Neighborhood Agent

The Citrix ICA Client for Linux 7.x contains a new feature, the Program Neighborhood Agent.

The PNAgent allows the MetaFrame server to capture credentials and launch applications and content that are accessed by users through servers running the Web Interface for MetaFrame XP. The configuration for all users is defined in the configuration file “config.xml”. The default location for config.xml on a MetaFrame server is //Inetpub/wwwroot/Citrix/PNAgent. The PNAgent downloads its configuration data from the server running the Web Interface when it is started, and can be configured to update settings and the user interface periodically.

The file config.xml should be edited using the Program Neighborhood Agent Admin Tool, which is available in Citrix MetaFrame XP Server with Feature Release 3 and later.

⇨ To configure Program Neighborhood Agent settings on the Thin Client

PNAgent settings can also be set for all users by the administrator using the Program Neighborhood Agent Admin Tool. See the Citrix documentation for more detail.

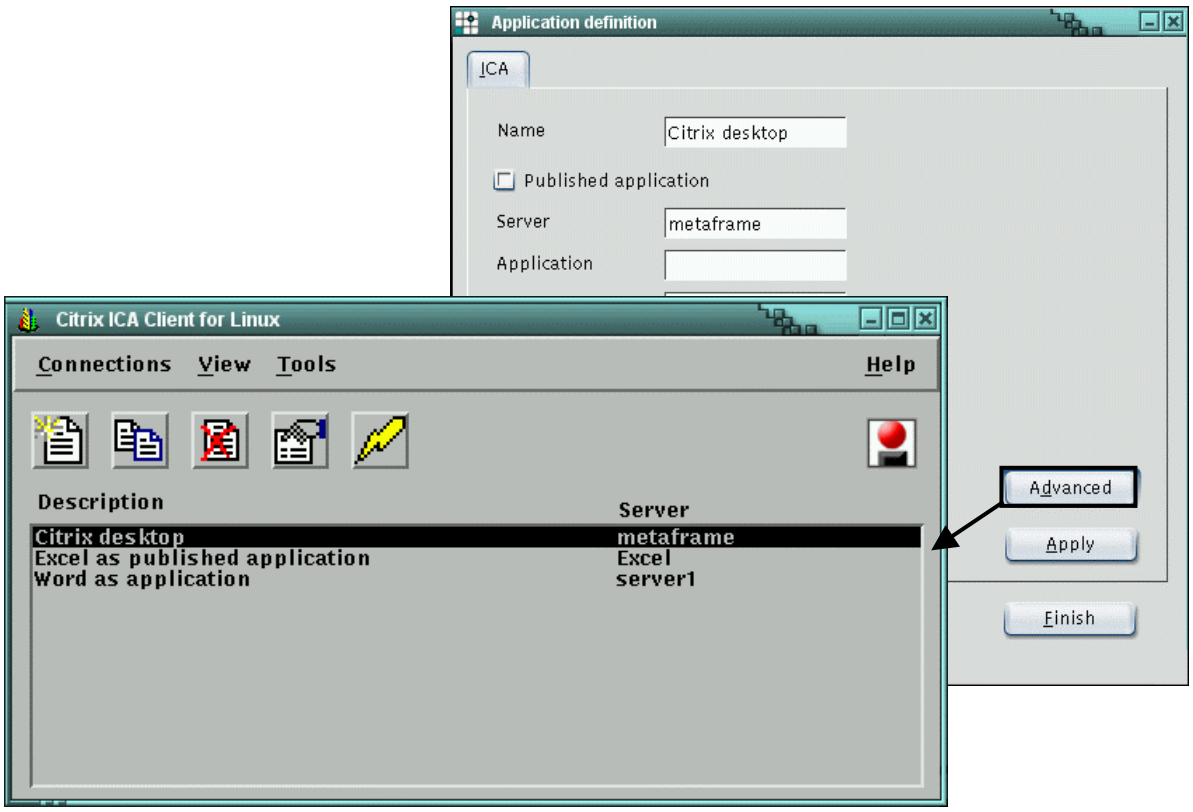


Figure 74: Citrix ICA Client for Linux – Connection view

To configure PNAgent settings on the Thin Client, from the **Configuration** tab, click **New**.

1. The **Application Definition** dialog box appears. Click the **ICA** tab.
2. Enter a name for this definition and click the **Advanced** button. The **Citrix ICA Client for Linux** appears.
3. In the **Citrix ICA Client for Linux** click **Tools** > **Settings** > **PNAgent** to display the PNAgent page.

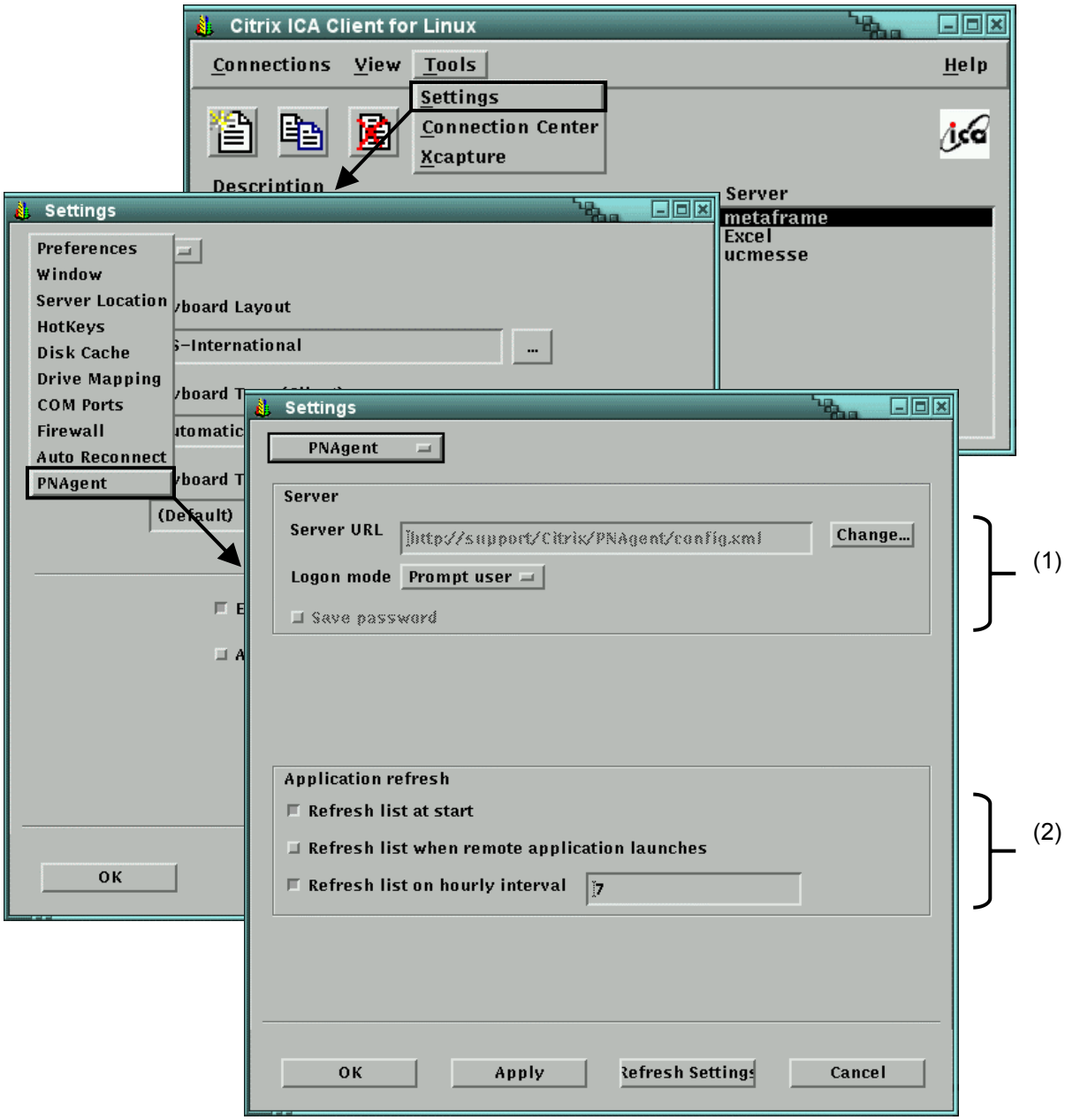


Figure 75: Citrix ICA Client for Linux – PNAgent page

4. The PNAgent page consists of three configuration areas. (It is possible for the Citrix administrator to blend areas out. These settings are made in the configuration file config.xml, which is edited with the Program Neighborhood Agent Admin Tool. See the Citrix documentation for more information). Here the two eLux NG related areas::

- **(1) Server**
  Server URL To set the server running the Web Interface, click “Server URL” > **Change**. In the **PNA configuration** dialog box, enter the IP address/name of the server. Click **Update**. Your entry will automatically be extended with the URL of the configuration file. If the PNAgent cannot contact the server, check server-side entries.
  Logon mode Only “anonymous logon” and “prompt user” are supported. Entries are made on the server side using the Program Neighborhood Agent Admin Tool.
- **(2) Application refresh**
  Define an update time for the published resources in the PNAgent view. In addition to PNAgent or published application start, you can choose to update the display at intervals specified by the number of hours in the box.

5. Click **Apply** and **OK**. (The **Refresh Settings** button retrieves changes made to the PNAgent configuration using the Program Neighborhood Agent Admin Tool.)
6. Exit the Citrix ICA Client and return to the eLux NG starter.

⇨ To define a Program Neighborhood Agent application in eLux NG

The following describes how to configure a PNAgent application definition, enabling the user to call the PNAgent directly from the **Applications** tab.

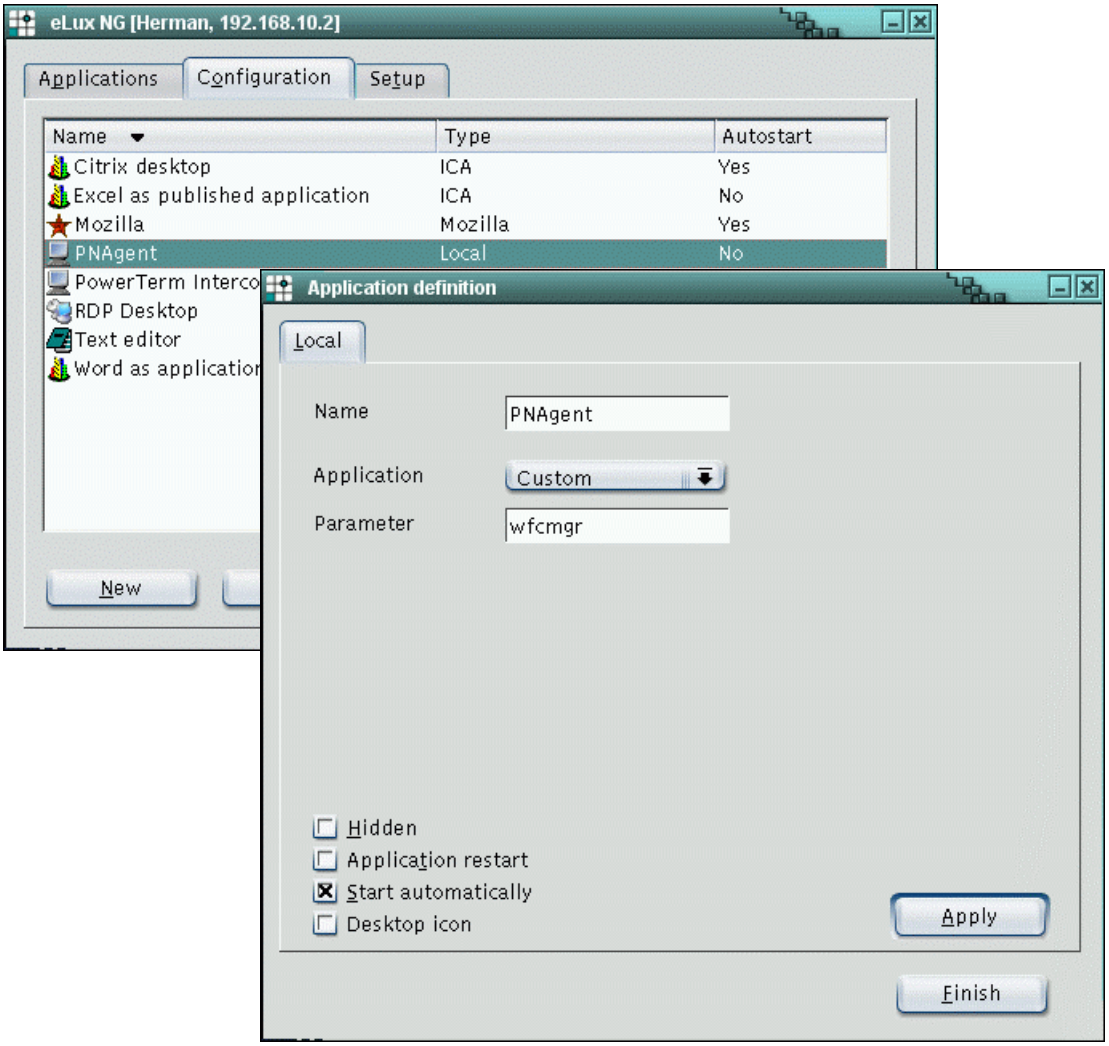


Figure 76: Definition of the PNAgent application

1. To define a PNAgent application in eLux NG, from the **Configuration** tab, click **New**. The **Application Definition** dialog box appears. Click the **Local** tab.
   - **Name**: Enter an appropriate name for this application, such as “PNAgent”.
   - **Application**: Select **Custom**.
   - **Parameter**: Enter `wfcmgr`
   - **Hidden:** Does not display the application in the **Applications** tab. If this option is selected, please select one of the two following options:
   - **Application restart:** Click to select to immediately reconnect after the user logs off. When this feature is selected, the application automatically starts when the Thin Client starts or restarts
   - **Start automatically:** Click this check box to open the session when the terminal starts.

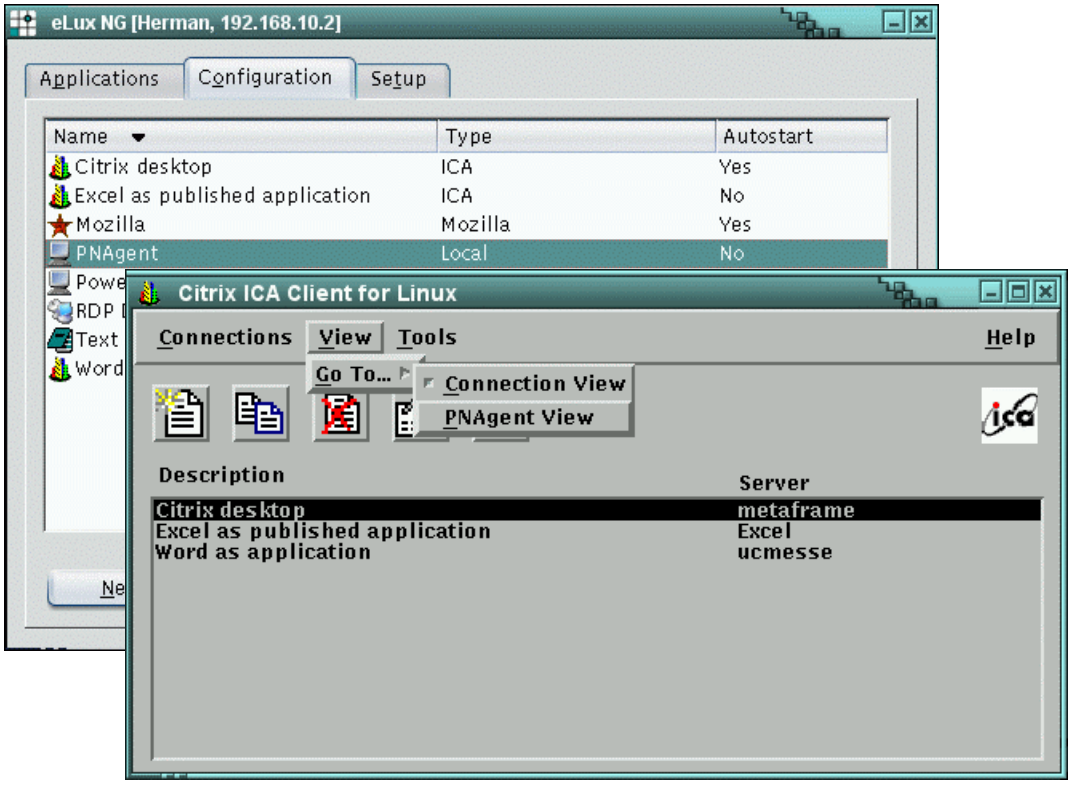
- **Desktop icon** Creates a desktop shortcut for this application on the eLux NG desktop.

2. Click **Finish** in the **Application definition** dialog box.

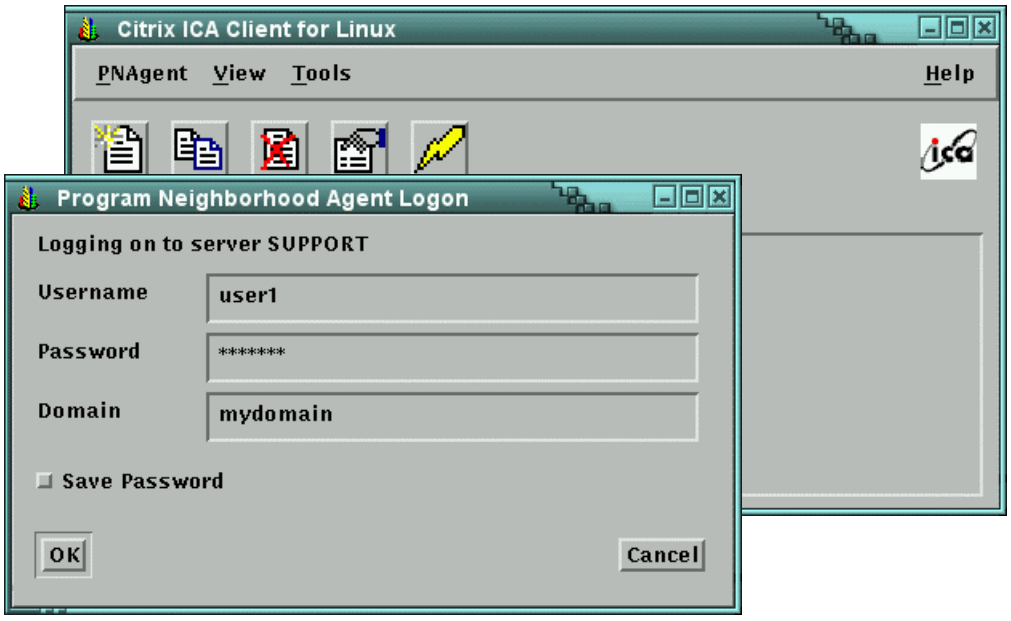
⇨ To start the Program Neighborhood Agent from eLux NG

The following describes how to call the PNAgent directly from the **Applications** tab and access a published resource.

1. In the eLux NG starter **Applications** tab, start the application you just defined.



2. If you see a list of connections (as shown above), you are in the so-called “Connection view.” Click **View** > **PNAgent view** to enter PNAgent view.
3. A dialog opens requesting your user credentials for the Web Interface server. Enter your user information to log on.



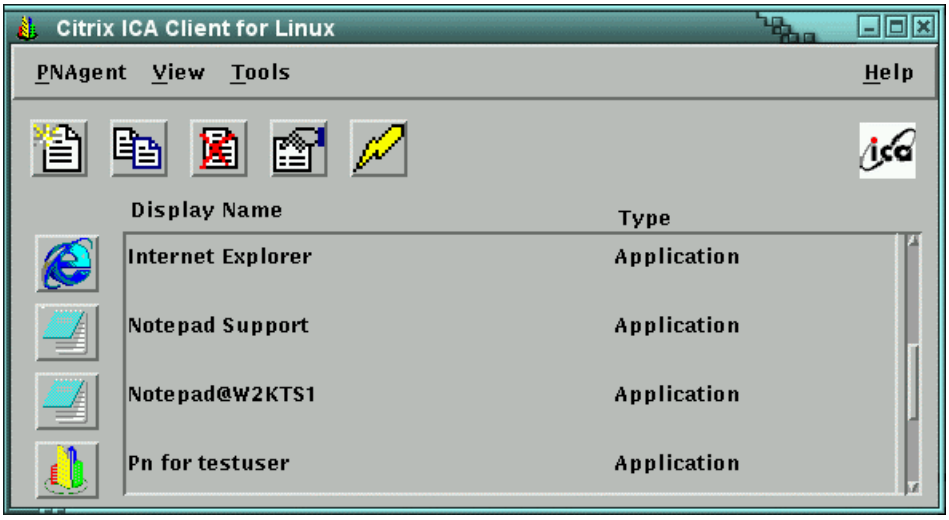


Figure 77: PNAgent

4. After successfully logging on, the Citrix ICA Client for Linux opens in PNAgent view and you have access to published resources. Click the icon to start an application. Refresh settings are set either by the administrator or in the PNAgent page of the Citrix ICA Client for Linux, as shown in Figure 75, page 129, area (2).

4.3.5 Via Program Neighborhood Light

The eLux NG starter offers a new function, Program Neighborhood Light (PNL). Using PNL, you can display all published applications on a MetaFrame server by entering the server name directly in an application definition.

⇨ To configure PNLight

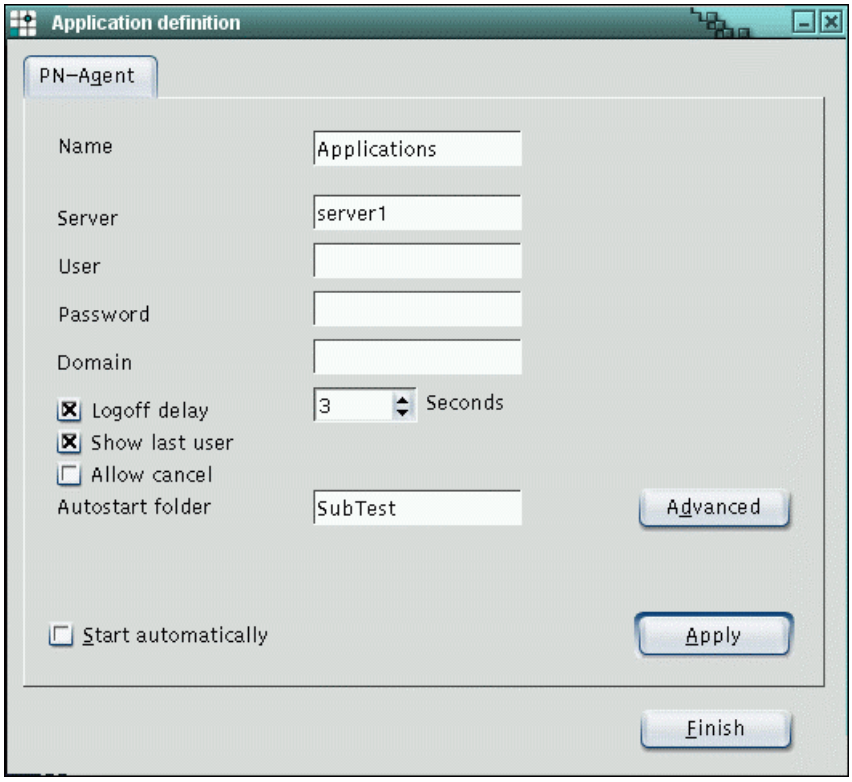


Figure 78: Configuring PNLight

From the **Configuration** tab, click **New**.

1. The **Application Definition** dialog box appears. Click the **PN-Agent** tab.

- **Name**: Enter an appropriate name for this application.
- **Server:** Enter the IP address (or name) of the MetaFrame server.
    - Alternatively, if the Citrix Web interface is not running on port 80 or if the configuration file does not have the standard path "/Citrix/PNAgent/config.xml", you can enter an URL to direct the client to the configuration file on the server. Format: `http://<server>:<port>` or `http://<server>/<path>` . Example:
      `http://server1/Citrix/PNAgent/config.xml`
      `http://server1:81`
      `http://server1/MyNfuse/config.xml`
- **User, Password, Domain:** Enter to automatically log on to the terminal server.
- **Logoff delay** After closing the last published application, the idle time the user has to start another published application before the session is automatically disconnected from the MetaFrame server.
- **Show last user** The user credentials (except for password) of the last logon will automatically be displayed in the MetaFrame logon dialog box. Note that this option has no effect if you enter user credentials for automatic logon.

- **Allow cancel** When activated, allows the user to close the MetaFrame logon dialog box.
- **Autostart folder** On the server, in Program Neighborhood Agent create a folder (or subfolder) with published applications. Enter the name of the folder here. All published applications in this folder will automatically be started when the session connects.
- **Start automatically:** Click this check box to open the session when the terminal starts.

2. Click **Apply** and **Finish**.

Window properties

Click on **Advanced** to display the **Advanced PN-Agent settings** dialog box. Here you can set the window parameters for this application. If you click **Use default**, the settings as defined on the server will be used.

When this session connects, the Thin Client will retrieve all applications from the defined MetaFrame server which were published for the given user credentials. The published applications will be displayed in the eLux NG starter and taskbar menu (in addition to the other defined applications) in a tree-like structure: the top-level name is the PNLight application definition name, second level are the published applications or folders from the server (both applications and folders are defined server side).

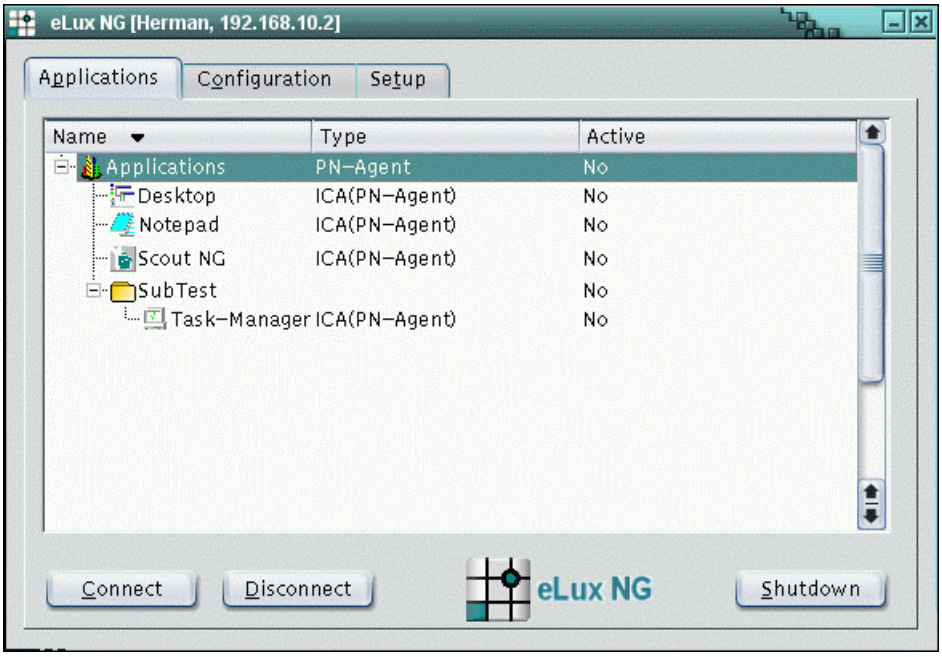


Figure 79: How PNL definitions appear to Thin Client user

The option **Refresh** in the taskbar menu allows the user to periodically refetch the published applications from the server.

If an autostart folder has been defined, the published applications in this folder will automatically run when the session is connected.

Multiple Users

In the application definition, if you leave the server or user credentials fields blank, a dialog requesting user logon information will appear when the Thin Client attempts to contact the server, either upon boot ("Start automatically" is selected) or upon demand (the user selects the **Refresh** option from the Taskbar menu). This is useful for multiple users on the same terminal. Please note that for ease of use, there is an option where the user information (except for password) of the last logon will automatically be displayed in the MetaFrame logon dialog box.

4.3.6 Troubleshooting

4.3.2 Via Citrix ICA Client for Linux, Step 5

If you are having trouble accessing a list of published applications over the network:

- verify the Thin Client network settings (eLux NG starter > **Setup** > **Network**)
- verify the server location parameters (Citrix ICA Client for Linux > **Tools** > **Settings** > **Server Location**)

4.3.4 Via Program Neighborhood Agent

If you get the error message when logging on using the PNAgent:

```
One or more fields are incorrect
```

check if your logon credentials are correct. Note: In our experience, the PNAgent will not always accept an empty domain name field. If your server does not belong to a Citrix domain, we recommend entering the Windows domain at logon.

4.4 RDP

This connection corresponds to the ICA functionality using Microsoft Remote Desktop Protocol (RDP). It is used to connect to a Microsoft Terminal Server. The application type is a native RDP client with the free software "rdesktop." For further information see www.rdesktop.org.

Previous releases of eLux offered a Java-based RDP solution from Hob called “JWT” that was licensed. This application has since been incorporated into the J-Term emulation (also from HOB). Please consult HOB (www.hob.de) for further information.

You have two configuration possibilities: Windows desktop or individual application.

4.4.1 Remote Desktop

A remote desktop session allows you access to the desktop of a terminal server. You can run any applications available on the desktop, in any order.

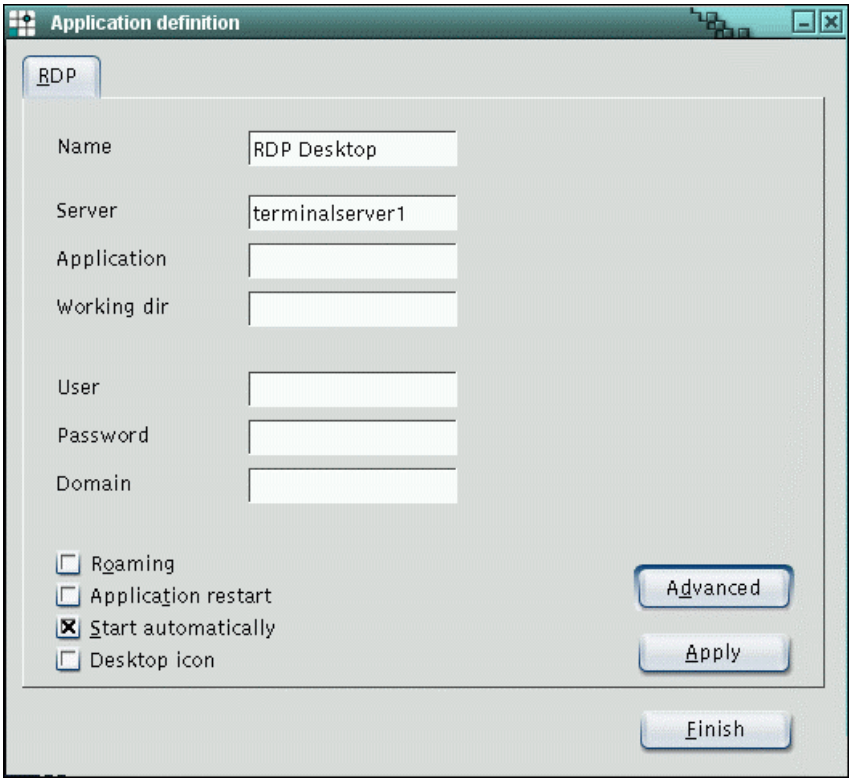


Figure 80: RDP client configured for a remote desktop

⇨ To configure a remote desktop session via RDP

From the **Configuration** tab, click **New**.

1. The **Application Definition** dialog box appears. Click the **RDP** tab.

- **Name**: Enter an appropriate name for this application, such as “RDP Desktop.”
- **Server**: Enter the IP address or name of the terminal server.
- **Application**: Leave blank.
- **Working dir**: Leave blank.
- **User, Password, Domain:** Enter to automatically log on to the terminal server.
- **Roaming:** Click this check box to enable smart card User Roaming. A smart card and PIN are required when the terminal starts. If the PIN is correct, the terminal server

session is automatically started using the user logon data saved to the card. If you remove the smart card, the session is automatically disconnected. It is reconnected when you reinsert the card and enter the PIN, even in another terminal.
See section “3.15.3 User Roaming” for a description of settings.

- **Application Restart:** Immediately reconnects after the user logs off. When this feature is selected, the application automatically starts when the Thin Client starts or restarts.
- **Start automatically:** Click this check box to open the session automatically when the terminal starts.
- **Desktop icon** Creates a desktop shortcut for this application on the eLux NG desktop.

2. **Advanced**: See section “4.4.3 Session Parameters.”
3. Click **Finish**.

4.4.2 Windows Application

This section describes how to configure a session to a Windows application running on a specific terminal server.

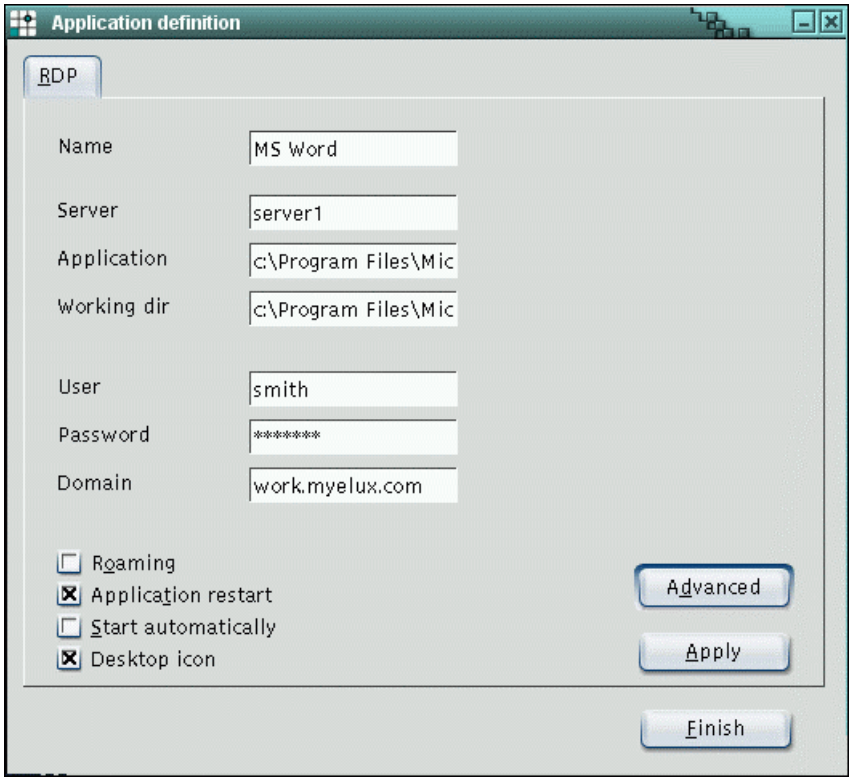


Figure 81: RDP client configured for a terminal server application

⇨ To configure a connection to a Microsoft Windows application via RDP

From the **Configuration** tab, click **New**. The **Application Definition** dialog box appears. Click the **RDP** tab.

The parameters are the same as in “4.4.1 Remote Desktop” with the following exceptions:

- **Name**: Enter an appropriate name for this application, such as “MS Word” for Microsoft Word.
- **Application**: Enter the name of the Windows application (for example, notepad.exe), including path, for example,
  `c:\Program Files\Microsoft Office\Office\Winword.exe`

Note: System variables are allowed, for example:
`%SystemRoot%\system32\notepad.exe`

- **Working dir**: (optional) Enter the working directory of the Windows application. Do not end the parameter with a backslash. Note: System variables are allowed, for example: `%HOMEDRIVE%%HOMEPATH%`

4.4.3 Session Parameters

Click on **Advanced** to display the **RDP advanced** dialog box. Here you can set the parameters for this session.

In the **Display** tab, you can set screen settings.

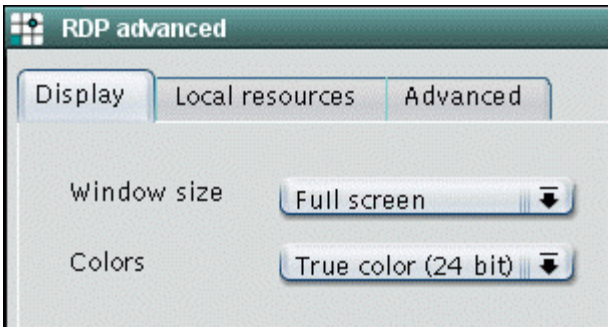


Figure 82: RDP client session settings: screen

In the **Advanced** tab, you can set the following parameters:

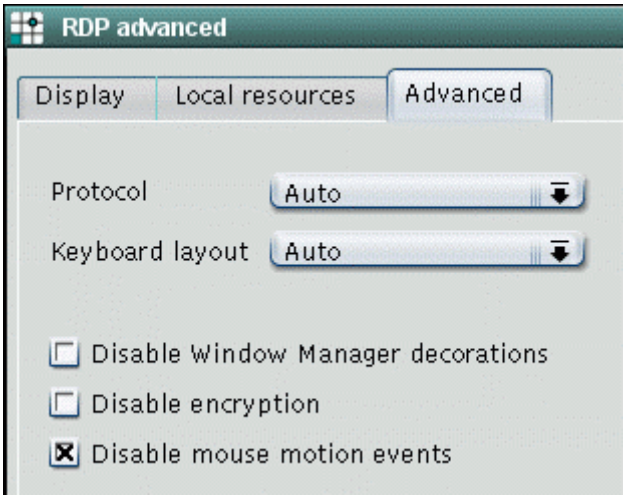


Figure 83: RDP client session settings: advanced

- **Protocol** Allows you to set the protocol to 4 or 5. By default, the RDP protocol type is automatically detected.
- **Keyboard layout** Allows you to set the keyboard layout within the RDP session. Default setting is **Auto**, which means the setting in the eLux NG starter will be used.
  Warning: The keyboard language set in RDP advanced settings may not differ from the keyboard language set in the eLux NG starter.
- **Disable window manager decorations** The border that appears on eLux NG windows will be blended out.
- **Disable encryption** Activate if your server does not accept encrypted sessions. Default is deactivated.

- **Disable mouse motion events** Information on mouse position will not be sent to the server continuously, but rather only upon mouse clicks. This improves performance for low-bandwidth connections. Default is deactivated.

The **Local resources** tab offers additional settings for terminal servers that support RDP 5.2 or higher. Note: This tab is only visible if you have the native RDP client version 1.3.1 or higher installed ("rdesktop52"). In addition, these options will have no effect if you set the protocol to "RDP V4" in the **Advanced** tab. To be able to use these settings, you must be using a terminal server that supports RDP 5.2 or higher.

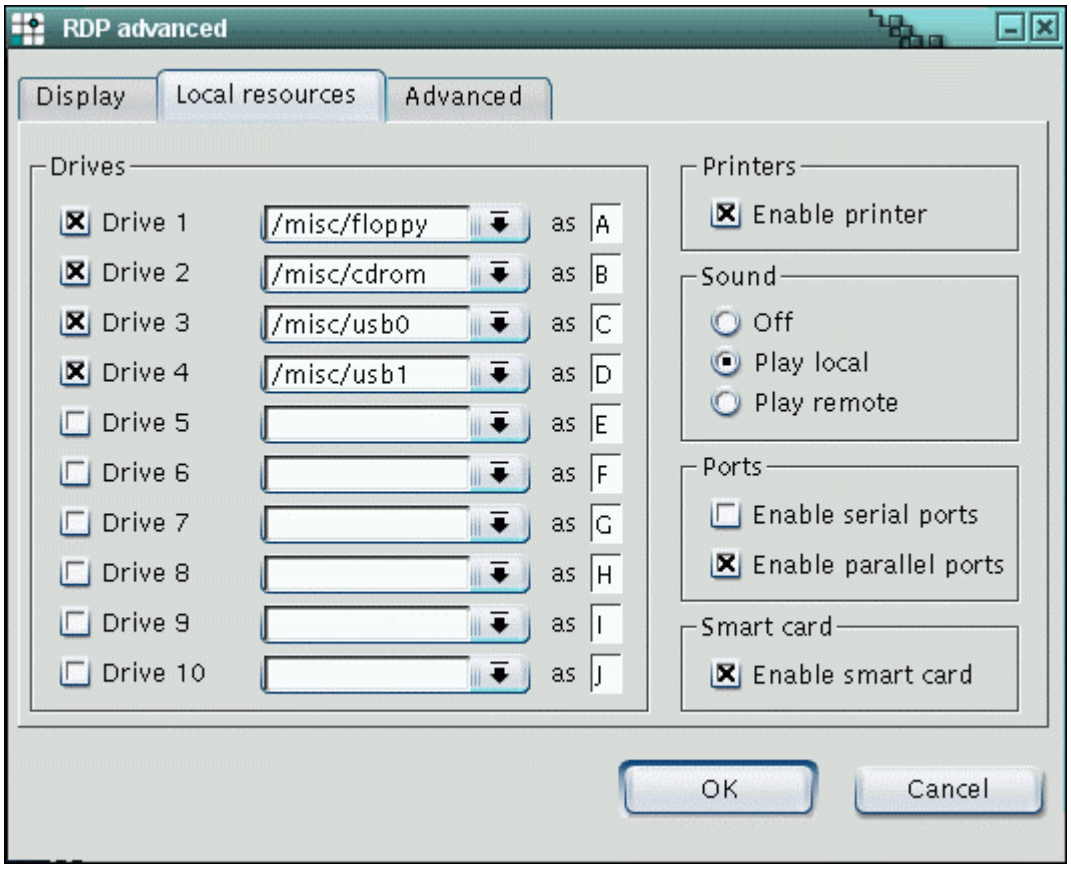


Figure 84: RDP client session settings: local resources

- **Drives** Allows you to map local drives. To map a drive, click to select the drive. Enter the mount point, which is the path to access the drive locally (see "3.9.5 Mount points"). Enter a letter. This is the drive that will appear in the RDP session. You can map up to 10 local drives.
  To access the drive from the command shell, use `\\tsclient\`<*drive letter*>, for example, `dir \\tsclient\b` would allow you to access the CD-ROM.
- **Printers** Allows you to automatically create up to four printer definitions for this session. The printers must be defined in the eLux NG starter > **Printer** tab and have a valid driver name as it appears on the server (capitalization is important). The first four profiles with drivers are used. To set a default printer, click to select the "default" check box in the eLux NG printer profile.
- **Sound** "Play local" means the sound will be played locally on the Thin Client. "Play remote" means the sound will be played remotely on the server.
- **Ports** Enabling the check box means the ports will be accessible from within the RDP session.

- **Smart card** This feature is available starting with base OS 1.14.1 and RDP 1.4.0. Enabling the check box means smart cards can be used for certificate-based logon. See section “3.15.5 RDP Logon.”

4.4.4 Command RDESKTOP

Advanced Users

Advanced users have the possibility of calling the native RDP client from a local shell.

To see command line parameters, enter the command `rdesktop -h` in a shell. You can then define a session with any rdesktop parameter in the tab **Local** > **Local application** > **Customized**. See also section ”4.8.4 User-Defined Commands.”

4.5 Internet

eLux NG offers a variety of ways to connect locally to the Internet, including browsers and Web tools.

4.5.1 Local Browser

The following browsers are available: Opera, Mozilla and Firefox.

4.5.1.1 Opera

Software Requirements

To use this program, the “Opera Web browser” (opera) EPM must be installed. Available FPMs:

- “Kiosk mode” (opera kiosk): Required for kiosk mode.
- “Opera help pack” (opera_help): Online help for the program.
- Various language packs are available for your localization.

For a description of EPMs and FPMs, see the *ELIAS NG Administrator’s Guide*.

Opera is a Web browser from Opera Software ASA. It is a complete suite of Web-related applications, including a browser, a mail/news client and a chat client. Opera offers various features including pop-up blocking and customizable toolbars. For more information, see www.opera.com.

This software can be tested without purchasing a license. For professional use or to remove the advertising banners, you must purchase a license. To purchase a license, see www.opera.com.

4.5.1.2 Mozilla

Software Requirements

To use this program, the “Mozilla suite“ (mozilla) EPM must be installed. Available FPMs:

- “Kiosk mode” (mozkiosk): Required for kiosk mode.
- Various language packs are available for your localization.

Mozilla and Firefox cannot both be installed on the same machine running eLux NG.

For a description of EPMs and FPMs, see the *ELIAS NG Administrator’s Guide*.

Mozilla is a free, open-source Web browser from the Mozilla Foundation. It is a complete suite of Web-related applications, including a browser, a mail/news client and a chat client. Mozilla offers various features including pop-up blocking. For more information, see www.mozilla.org.

4.5.1.3 Firefox

Software Requirements

To use this program, the “Firefox” (firefox) EPM must be installed. Available FPMs:

- “Kiosk mode” (firefoxkioskmode): Required for kiosk mode.
- “Firefox DOM inspector” (firefoxinspector): Tool for displaying the structure of HTML and XML pages. For more information, see the Firefox documentation.
- “Java support” (firefoxjava): Enables Java support in Firefox. Requires “SunJava(2)” (j2jre150) EPM 1.5 or higher.
- Various language packs are available for your localization.

Mozilla and Firefox cannot both be installed on the same machine running eLux NG.

For a description of EPMs and FPMs, see the *ELIAS NG Administrator’s Guide*.

Firefox is a free, open-source web browser based on the Mozilla codebase. It is just a browser and does not contain a mail client. Firefox offers various security features including control over cookies and pop-up blocking. Firefox is not the stand-alone Mozilla browser. The user interface in Firefox differs from Mozilla in many ways. For example, Firefox has customizable toolbars. For more information, see www.mozilla.org/products/firefox.

4.5.1.4 Configuring a Browser Application

To create or modify a browser session, in the **Configuration** tab click **New**.

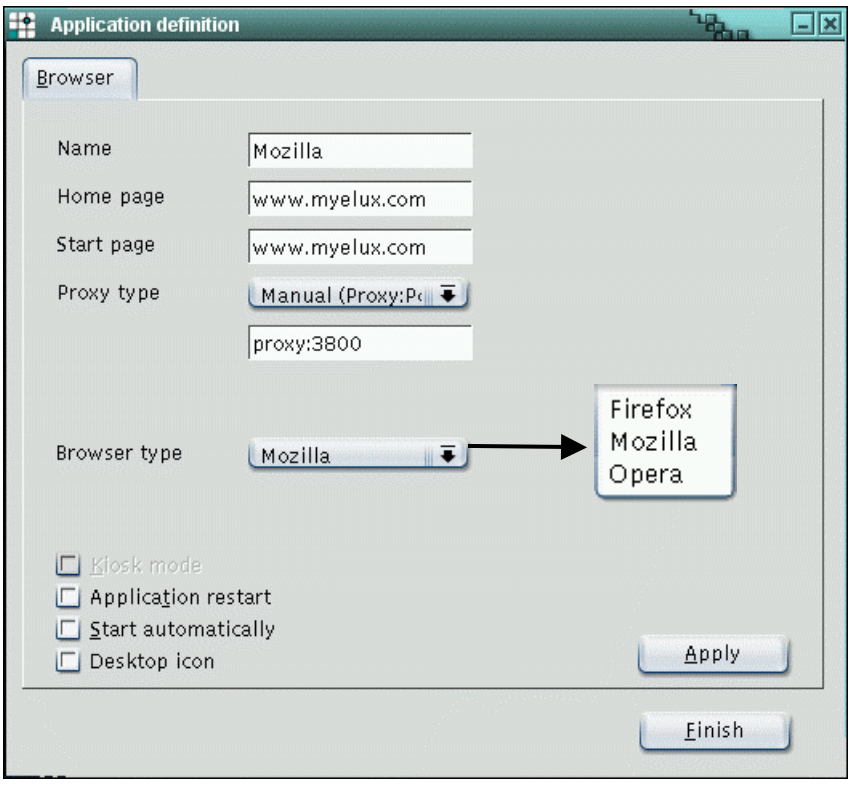


Figure 85: Browser application

1. The **Application Definition** dialog box appears. Click the **Browser** tab. A series of fields appears.

- **Name**: Enter an appropriate name for this application, such as “www.”
- **Homepage**: Enter a home page for the browser.
- **Start page**: Enter the first Web page to be called when the system starts.
- **Proxy type**

  No proxy: If you don’t use a proxy server.

  Manual (Proxy:Port): If you use a proxy server. Use the format <*proxy server IP address or name*>:<*port number*>.

  Auto (URL): If you use an automatic proxy configuration file.
  Example: `http://www.yourserver.com/autoproxy.pac`
- **Browser type**

  Software Requirements

  A selection of browser types is offered only if multiple browser software is installed (Opera, Mozilla or Firefox).

  Select the browser you want: Opera or Mozilla or Firefox.
- **Kiosk mode** See "Kiosk Mode," page 142.
- **Application Restart:** Immediately reconnects after the user logs off. When this feature is selected, the application automatically starts when the Thin Client starts or restarts.
- **Start automatically:** Click this check box to open the session when the terminal starts.
- **Desktop icon** Creates a desktop shortcut for this application on the eLux NG desktop.

2. Click **Apply** and **Finish**.

Note By default, all browser files (cache, history, bookmarks, etc.) are saved to the device flash memory, which is limited. This can quickly use up available memory and interfere with work. To avoid this, configure the browser to save files to a network drive. See “3.10 Browser Home Directory.”

You can make additional settings configurations in the browser itself. For further information consult the respective browser documentation at www.opera.com or www.mozilla.org or www.mozilla.org/products/firefox.

4.5.1.5 Kiosk Mode

Software Requirements

The kiosk option is enabled only if the kiosk feature is installed. It is located in the respective browser package. By default it is not activated.

Allows the users access to a specific Web site. In general, navigation (menus, toolbars, etc.) is deactivated, the user cannot alter preferences and keyboard commands are deactivated. Keyboard input is generally allowed. To allow the user to navigate, the Web site should be constructed appropriately.

Enter in **Start page** the Web page that you want to appear when the browser starts. The Web page can be on the Internet, on your thin client, or on another computer on the network. To enter a Web site, use the full URL format: “http://<*domain name*>”.

For more information on kiosk mode, see “Appendix 4: Configuring Kiosk Mode.”

4.5.2 Mail Clients

4.5.2.1 Thunderbird

Required Software

To use this program you must install the EPM “Thunderbird, V1.0.6-1”. The application "Thunderbird mail client" is supported by eLux NG BaseOS, V1.20-2. If you should want to use older BaseOS versions, it can be configured with the application type "user", but no icons for starter or desktop are provided in this case.

Application definition in the eLux NG Starter:

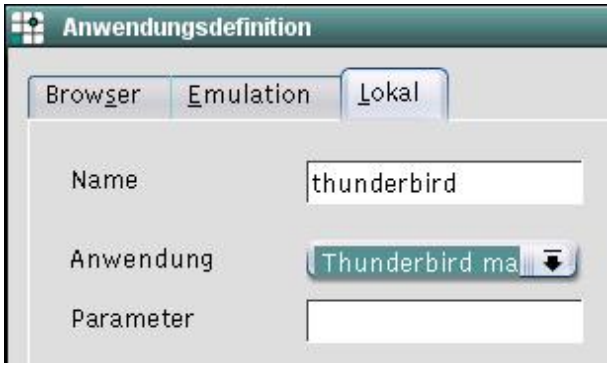


Figure 86: Definition of the Thunderbird mail client

Remarks

- Just like the browsers (Firefox, Mozilla, Opera) Thunderbird provides the possibility to set the home directory on a network drive (via Starter / Setup / drives, see chapter 3.10 Browser Home Directory).
- E-Mails coming in from a POP3 server will be lost after reboot of the Thin Client, if the Thunderbird home directory does not reside on a network drive (also valid for subscribed RSS-Feeds, newsgroup accounts and address books).
- Clicking hyperlinks in e-mails (such as http://www.myelux.com) opens the Firefox Browser (or a new browser tab, if Firefox is already open). Required is Firefox Version 1.4.0-2 or later.
- Vice versa you can click a mailto hyperlink in Firefox (e.g. info@unicon-ka.de) to create a new message, thus opening a Thunderbird window. If this should not occur automatically proceed as follows:
- In the address bar of Firefox enter the URL `about:config` (confirm entry with RETURN). Then enter the „Filter“ `network.protocol-handler.external` into the textfield and confirm (see figure below). The entry network.protocol-handler.external.mailto must be assigned the value `true`..

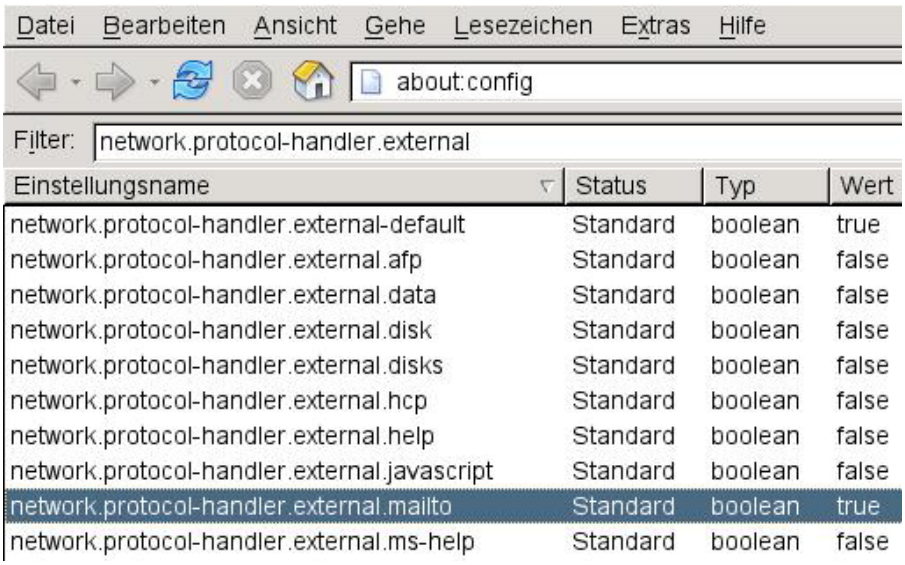
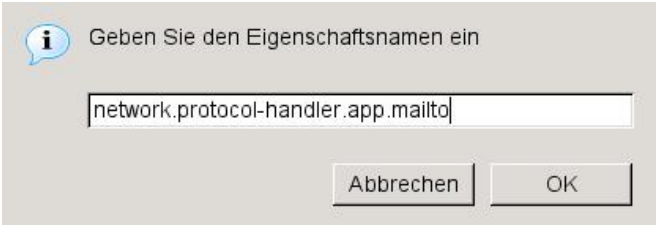


Figure 87: Einstellung in Firefox

Rightclick the selected line, select New → String and define a new string value with the name `network.protocol-handler.app.mailto`.



Enter `thunderbird`

Mozilla Thunderbird help is provided under http://www.mozilla.org/support/thunderbird/

4.5.3 Web Tools

The following Web tools are available: Adobe® Acrobat® Reader®, RealPlayer® and Java™ Plug-in.

4.5.3.1 Adobe Acrobat Reader

To use this feature, the software “Acrobat5“ (Acrobat5) must be installed.

This software can be run either as a stand-alone program or as a browser plug-in.

- To run Adobe Acrobat Reader as a stand-alone program, see “4.8.6 Adobe Acrobat Reader.”
- To run Adobe Acrobat Reader as a browser plug-in, just install the software. No further configuration is required.

4.5.3.2 Movie Player

To use this feature, the software “Movie Player” (mplayer) must be installed. Install the individual subcomponents (FPMs) relating to the features you desire. In addition, the base OS starting with version 1.8.4 must be installed.

MPlayer is an open-source movie player. It supports all common movie formats including DVD (including encrypted DVD), MPEG, DivX, AVI, ASF, RealVideo, Windows Media Video (.wmv), Quicktime (.mov) and others. The files can reside on the Thin Client, a network drive or the Internet.

This software can be run either as a stand-alone program or as a browser plug-in.

- To run MPlayer as a stand-alone program, see “4.8.9 Movie Player.”
- To run MPlayer as a browser plug-in (Mozilla only), just install the software “MPlayer Mozilla support” (mplayer_plugger) in the package “Movie Player” (mplayer). No further configuration is required.

4.5.3.3 RealPlayer

To use this feature, the software “Realplayer 8 Plugin“ (realplayer) must be installed.

RealPlayer is software from RealNetworks, Inc.

This software can only be run as a browser plug-in.

Configuration depends on whether you use a proxy:

- If you do not use a proxy, to run RealPlayer as a browser plug-in, just install the software. No further configuration is required.
- If you use a proxy, to run RealPlayer as a browser plug-in, install the software and configure the RealPlayer proxy setting.

⇨ To configure the RealPlayer proxy setting

1. Install the software.
2. Start the browser of your choice.
3. Start RealPlayer. To do this, go to a website that contains a RealPlayer-supported file (for example, RealAudio, RealVideo, MP3, Ogg Vorbis and Theora, H263, AAC). Click the link to the file. RealPlayer runs.
4. Open the **Preferences** dialog.
   - If RealPlayer is running in a separate window, go to **View** > **Preferences**.
   - If RealPlayer is running embedded in a page, right-click and select **Preferences**.

5. In the **Proxy** tab, enter the proxy server. If the proxy server is in a different subnet, enter the fully qualified domain name.
   - (optional) In addition, you can set other RealPlayer settings in the **Preferences** dialog box as desired.
6. Click **OK**.

4.5.3.4 Java Plug-in

To use this feature, the software "SunJava 2" (j2jre142) must be installed.

The Java™ 2 Runtime Environment (JRE) is software from Sun Microsystems, Inc. The JRE enables your computer to run applications and applets that use Java™ technology, such as the Mozilla browser and SAP/R3 client. The Java plug-in software used by browsers is a component of the JRE.

To run the Java plug-in, just install the software. No further configuration is required if you decide to use default settings.

Configuring the Java plug-in involves the following:

1. Configuring a Java Plug-in Control Panel application definition in eLux NG
2. Configuring options in the Java Plug-in Control Panel

⇨ To configure a Java Plug-in Control Panel application definition in eLux NG

Configuring the application definition in eLux NG does not configure the plug-in. It simply runs the Java Plug-in Control Panel. You configure the plug-in directly in the Java Plug-in Control Panel.

From the **Configuration** tab, click **New**.

1. The Application Definition dialog box appears. Click the **Local** tab.

Name	Enter an appropriate name for this application.
Application	Click **Customized**.
Parameter	Enter the following: `ControlPanel` Caution: Capitalization is important!
Hidden	Does not display the application in the **Application** tab.
Application Restart	Click to select to immediately reconnect after the user logs off. When this feature is selected, the application automatically starts when the Thin Client starts or restarts
Start automatically	Click this check box to open the session when the terminal starts.

2. Click **Apply** and **Finish**.

⇨ To configure options in the Java Plug-in Control Panel

To configure the Java plug-in, go to the **Applications** tab.

1. Start the application you configured in "To configure a Java Plug-in Control Panel application definition in eLux NG". The **Java Plug-in Control Panel** dialog box appears.
2. Make the desired changes.

   Tip: Optimize the cache size. The optimal size is hardware specific. Default is 4 MB.
3. Click **Apply** and close the dialog box.

For information on the Java 2 Runtime Environment, see http://java.com.

4.6 SAPGUI

eLux NG supports the SAP/R3 client from SAP AG. This feature is not available for all hardware platforms.

The SAP client configuration file is: “/setup/sapgui/platin.ini”.

System requirements:

- 96 MB flash card or larger
- 128 MB of RAM minimum

Establishing a connection involves the following:

1. Installing the required firmware
2. Configuring the SAPGUI application definition in eLux NG
3. Entering connection data in the SAP/R3 client

⇨ To install the required firmware

To use this feature, you must have the “SAP R/3 client PlatinGUI” (sapplatingui) and “IBMJAVA2” (IBMJAVA2) packages installed.

⇨ To configure the SAPGUI application definition in eLux NG

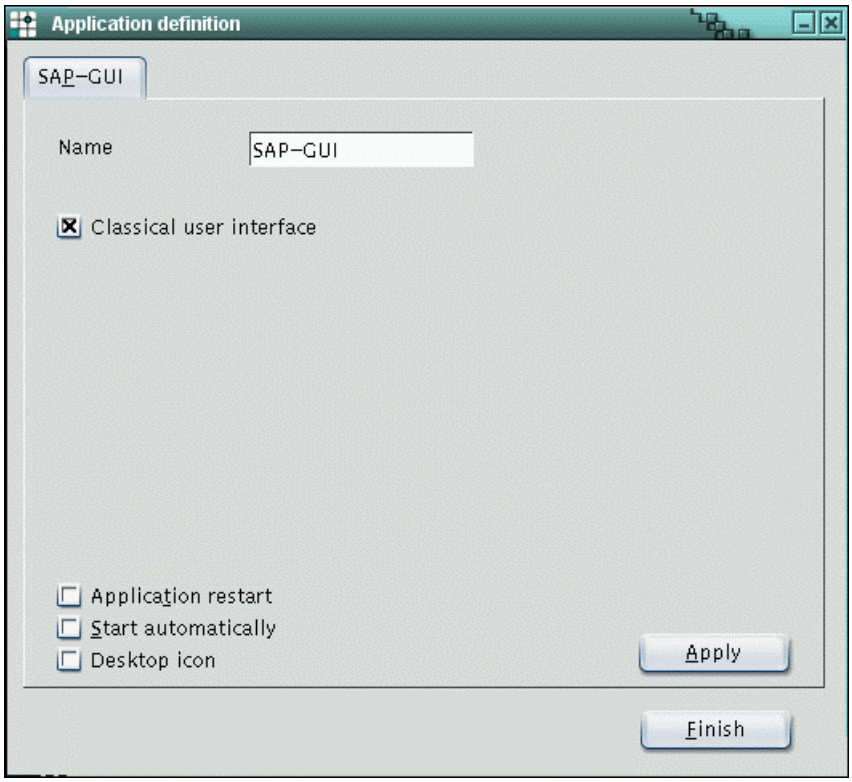


Figure 88: SAP/R3 application definition in eLux NG

Configuring the application definition in eLux NG does not configure a session. It simply runs the SAP/R3 interface. You configure a session directly in the SAP/R3 interface.

From the **Configuration** tab, click **New**.

1. The **Application Definition** dialog box appears. Click the **SAPGUI** tab. Configure the following options:
   - **Name**: Enter an appropriate name for this application, such as “SAP”.
   - **Classical user interface** Click to select to display the SAP interface in the former design (“Classic”). Default settings are for the new design ("EnjoySAP").
   - **Application Restart:** Immediately reconnects after the user logs off. When this feature is selected, the application automatically starts when the Thin Client starts or restarts.
   - **Start automatically:** Click this check box to open the session automatically when the terminal starts.
2. Click **Apply** and **Finish**.

4.6.1 Entering Connection Data

To connect to an SAP system, you must enter its connection data. This is done in the SAP/R3 interface. See your SAP administrator for connection data.

To enter the connection data, you have two options:

- **Message Server List**

  Instruct the SAP client to retrieve a message server list.
- **Manual configuration**

  Enter the parameters manually.

⇨ To enter SAP connection data from a message server

This section describes how to retrieve the connection data for an SAP system from a message server. The message server list must exist in advance and be available over the network.

To set a message server list, go to the **Applications** tab.

1. Click to highlight the SAP application configured in “To configure the SAPGUI application definition in eLux NG“ and click **Connect**. The **SAPGUI for Java** dialog box appears.

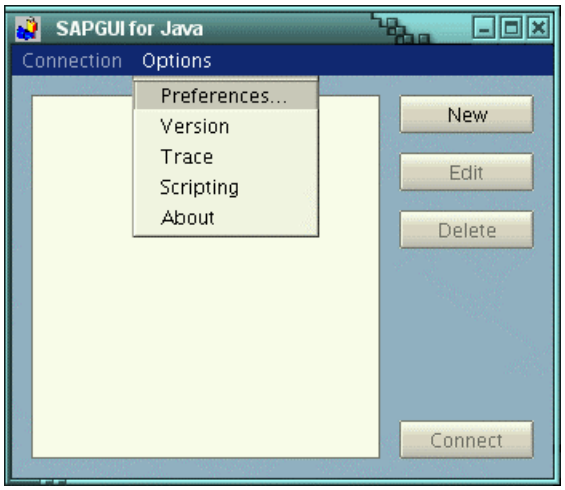


Figure 89: Configuring SAPGUI (automatically): Connection dialog box

2. In the **Options** menu, select **Preferences**.

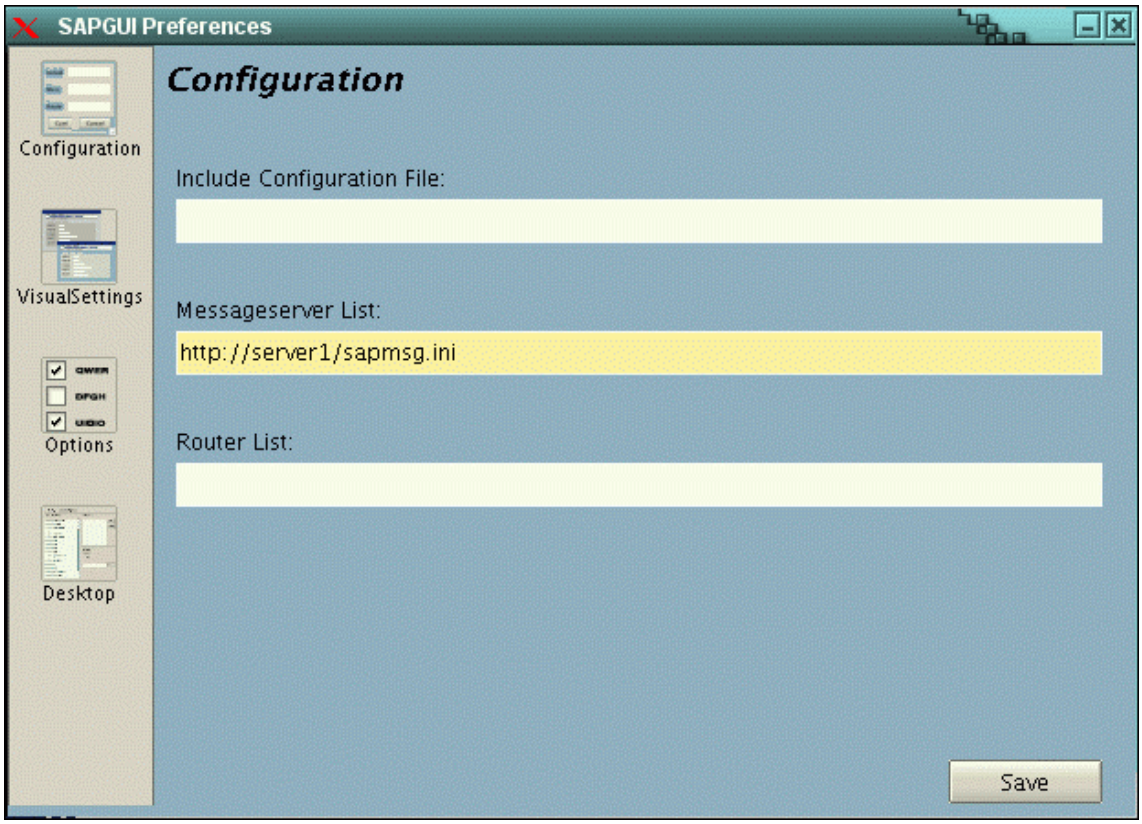


Figure 90: Configuring SAPGUI (automatically): Preferences dialog box

3. The **SAPGUI Preferences** dialog box appears. Configure the following options:
   - **Include Configuration File** Enter a blank.

     Note: You must enter a blank to be able to save the configuration. This is a known bug in the SAP/R3 software.
   - **Messageserver List** Enter the message server list. This file must exist on the SAP message server in advance. You have the following options:

- **Web server**
  Enter the fully qualified URL of the message server list, for example: `http://server1/sapmsg.ini`
- **Netdrive**
  Enter the path of the of the message server list residing on a Samba or NFS network drive, for example: `/smb/drive1/sap2.ini`

Click **Save**. The **SAPGUI Preferences** dialog box closes.

4. In the **SAPGUI for Java** dialog box, click **New**. The **Add New Connection** dialog box appears.

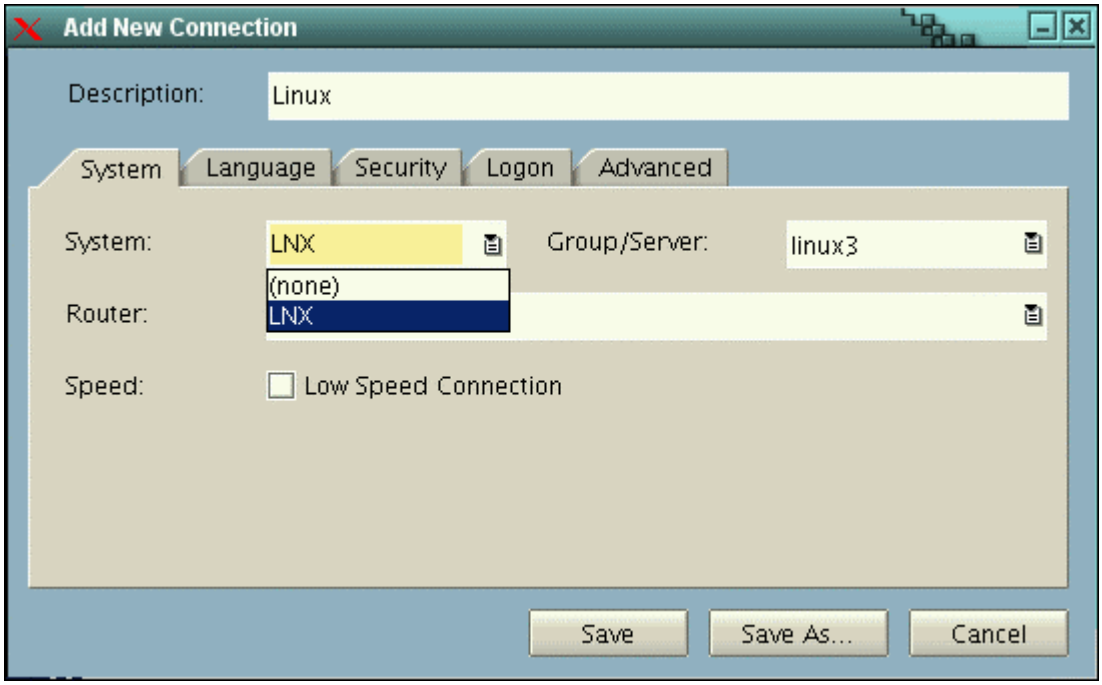


Figure 91: Configuring SAPGUI (automatically): Add New Connection dialog box

5. In the **System** tab, configure the following options:
   - **Description** Enter a name for this connection.

   The choices in the following dropdown-lists are automatically set once you enter a message server:
   - **System** Select your SAP system from the drop-down list.
   - **Group/Server** Select your SAP group from the drop-down list.
   - **Router** (optional) Select your SAP router from the drop-down list. Only required if you use SAP routers to make remote connections.

   For information on remaining parameters, see the SAP documentation.

   Click **Save**. The **Add New Connection** dialog box closes.

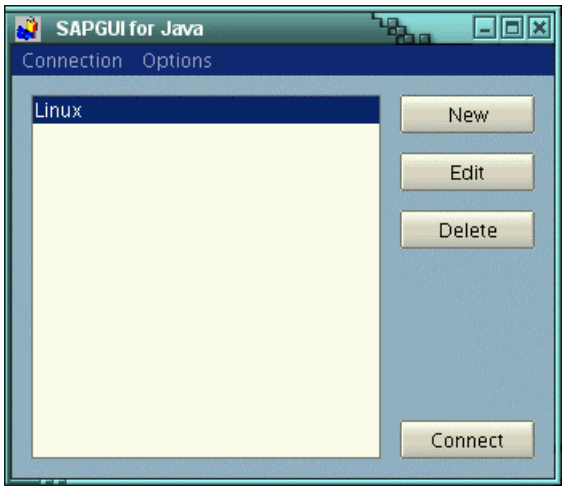


Figure 92: Configuring SAPGUI (automatically): Connection dialog box (connections configured)

6. To connect, in the **SAPGUI for Java** dialog box select a connection and click **Connect**.

Tip To save your entries, close the SAP/R3 for Java dialog box. Only then is the configuration saved to the Thin Client.

⇨ To enter SAP connection data manually

To enter the connection data manually, go to the **Applications** tab.

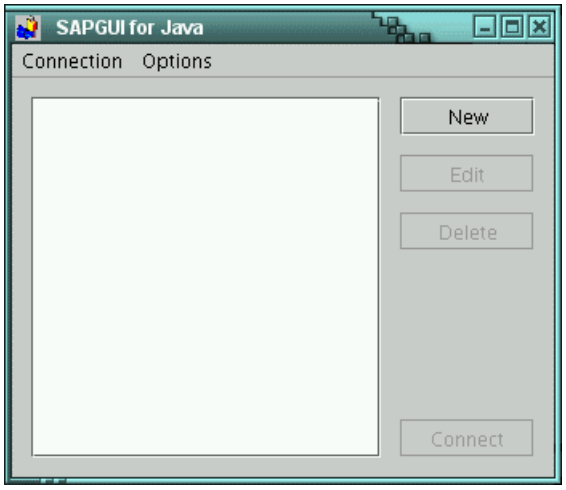


Figure 93: Configuring SAPGUI (manually): Connection dialog box

1. Click to highlight the SAP application configured in “To configure the SAPGUI application definition in eLux NG“ and click **Connect**. The **SAPGUI for Java** dialog box appears.

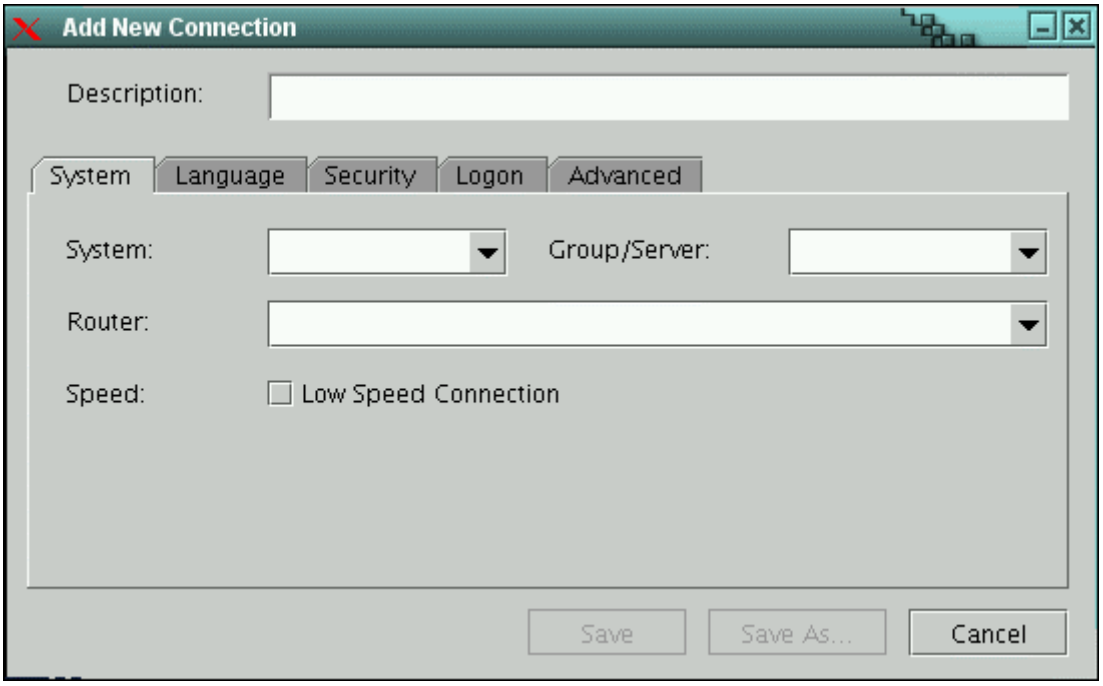


Figure 94: Configuring SAPGUI (manually): Add New Connection dialog box (System tab)

2. Click **New**. The **Add New Connection** dialog box appears.

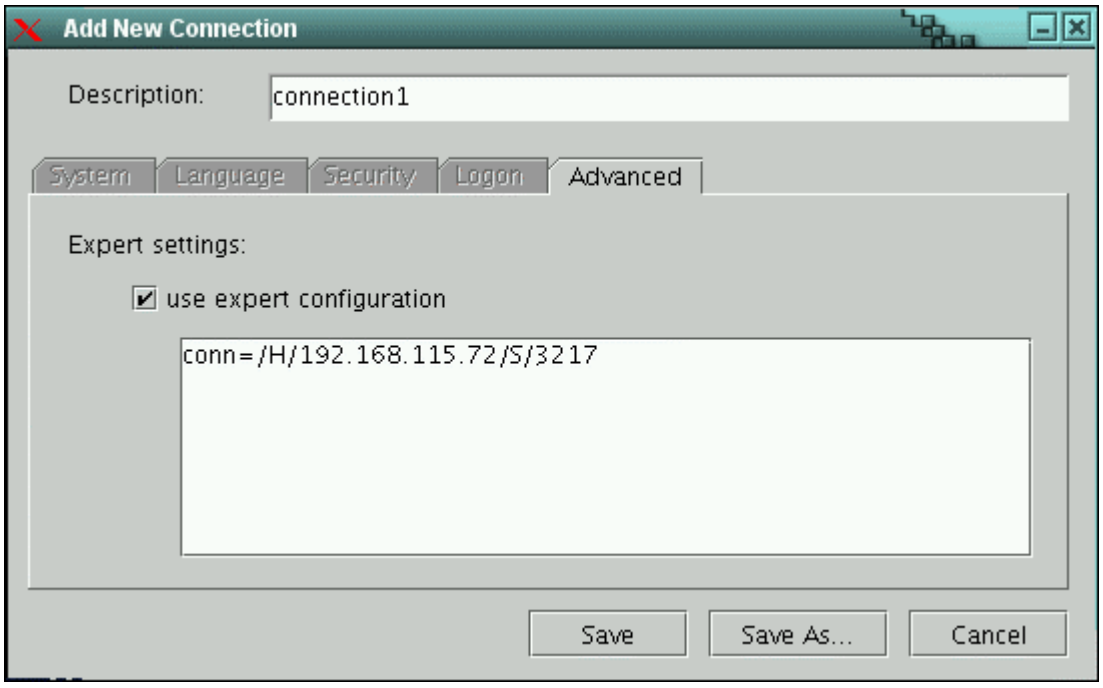


Figure 95: Configuring SAPGUI (manually): Add New Connection dialog box (Advanced tab)

3. Click the **Advanced** tab. Configure the following options:
   - **Description** Enter a name for this connection.
   - **Use expert configuration** Click to select.

     In the text field, enter the connection string in the following format:
     `conn=/H/<host>/S/<port>`
     where

<*host*> = IP address or hostname of the SAP host
<*port*> = port number

Note: Do not use blanks.

For information on connection string syntax possibilities, see the SAP documentation.

4. Click **Save**. The **SAPGUI for Java** dialog box appears and displays the new connection.
5. Add additional connections as desired.

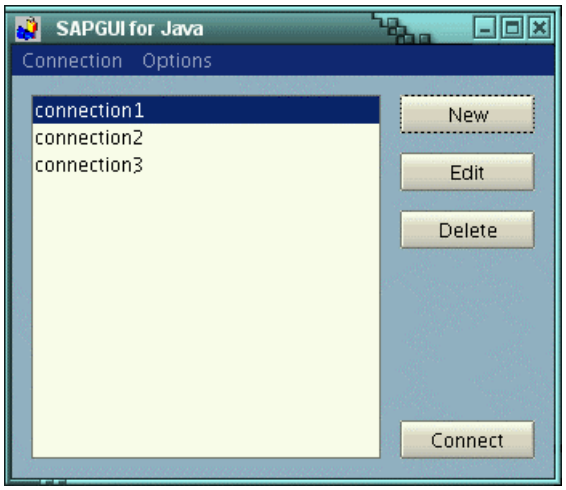


Figure 96: Configuring SAPGUI (manually): Connection dialog box (connections configured)

6. To connect, in the **SAPGUI for Java** dialog box select a connection and click **Connect**.

For further information on this application, see www.mysap.com or the SAP documentation available on the eLux NG CD-ROM.

4.7 Emulation

Use the **Emulation** tab to connect to mainframes or UNIX systems.

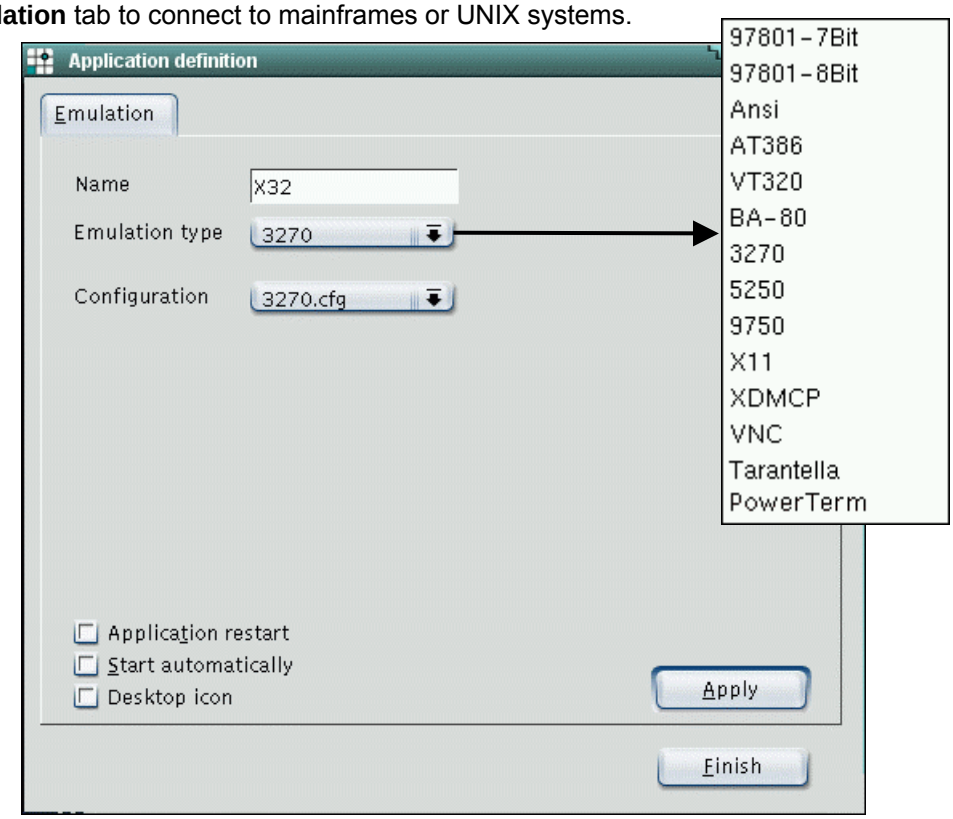


Figure 97: Application definition dialog box for an emulation

⇨ To configure a terminal emulation

From the **Configuration** tab, click **New**.

1. The **Application Definition** dialog box appears. Click the **Emulation** tab.
   - **Name**: Enter an appropriate name for this application, such as, “Star Office” for the SUN office program run as an X11 terminal.
   - **Emulation type**: Click an emulation type from the **Emulation type** list. The following emulations are supported:
     - **97801-7Bit:** for Sinix or Reliant UNIX systems with TCP/IP or V.24 protocol
     - **97801-8Bit:** for Sinix or Reliant UNIX systems with TCP/IP or V.24 protocol
     - **ANSI:** for UNIX systems with TCP/IP or V.24 protocol
     - **AT386:** for UNIX systems with TCP/IP or V.24 protocol
     - **VT320:** for UNIX systems with TCP/IP or V.24 protocol
     - **BA-80:** for Targon systems with TCP/IP or V.24 protocol
     - **3270**: for IBM mainframes with TN3270E protocol (to be licensed)
     - **5250**: for IBM AS400 systems with TN5250E protocol (to be licensed)
     - **9750:** for BS2000/OSD systems with TCP/IP (to be licensed)
     - **X11:** for X applications on remote (UNIX) systems, using the local X server
     - **XDMCP:** for the complete X Desktop of remote UNIX systems using the local X server (Not available for all hardware platforms)
     - **VNC:** for VNC server or mirroring

- **Tarantella:** for a Tarantella server
- **PowerTerm:** for IBM Mainframe, IBM AS/400,Unix, VAX/Alpha OpenVMS, Tandem (NSK), HP-3000 and Data General (to be licensed)

A series of fields appears. Fill in the requested information (see sections 4.7.1 to 4.7.7).

- **Application Restart:** Immediately reconnects after the user logs off. When this feature is selected, the application automatically starts when the Thin Client starts or restarts.
- **Start automatically:** Click this check box to open the session when the terminal starts.
- **Desktop icon** Creates a desktop shortcut for this application on the eLux NG desktop.

2. Click **Finish**.

4.7.1 Tarantella

To use this software, you must have the “Tarantella Native Client” (tarantella) package installed.

Tarantella uses a bitmap protocol to connect from a Tarantella client to a Tarantella server, which can then connect to another machine. It can be used as an alternative to Citrix for small installations.

You can enter the server name (or IP address) and the username directly in the application definition.

The native Tarantella client has no further parameters. The configuration of the client is done within the application. For further information consult the Web site www.tarantella.com.

4.7.2 Terminal Emulation for Motif

To use this software, you must have the “Terminal emulation for Motif” (xemu) package installed.

“Terminal emulation for Motif” is a terminal emulation suite for IBM and BS2000 systems that includes the following emulations:

- 3270 for IBM mainframes with TN3270E protocol
- 5250 for IBM AS400 systems with TN5250E protocol
- 9750 for BS2000/OSD systems with TCP/IP

This is a licensed product. The software includes a 15-minute trial period To purchase a license, please contact sales@myelux.com. You can purchase either a license that is distributed using the Scout Enterprise management tool or a license that is entered directly on the terminal (start the program > **Add-Ons** menu > **Licensing**).

The configuration is saved in a file with the extension "cfg". Select the configuration file from the drop-down list. Initially only the default configuration file (X32: 3270.cfg, X52: 5250.cfg, X97: default.cfg) is available.

⇨ To define a new configuration file

1. Start the emulation.
2. Set the settings you want.
3. The menu command **File** > CONFIGURATION > **Save as** allows you to save the settings to a new configuration file. Enter the name of the configuration file in the **Save Configuration** dialog box. You must enter the extension “.cfg”!

   Note The path must be the default `/setup/xemu`!
4. Close the emulation and return to the eLux NG **Configuration** tab.

This new configuration file is now available in the eLux NG **Configuration** > **New** > **Emulation** > **3270** (or **5250** or **9750**) > **Configuration** drop-down list.

You can set the station name to a set value using an environment variable. “X97STATNAM” is the defined station name environment variable for all UniCon Software GmbH emulations (X32, X52, X97). Alternatively, you can set the station name to a variable. Requirement: The device must be managed by Scout Enterprise. For more information, see the X97 chapter or environment variable chapter in the *Scout Enterprise Administrator’s Guide*.

For detailed instructions on how to use X32 or X52, please consult the *X32 – 3270 / X52 –- 5250 for Motif Administrator’s Guide*, available at www.myelux.com or the eLux NG CD.

For detailed instructions on how to use X97, please consult the *X97 – 9750 for Motif Administrator’s Guide*, available at www.myelux.com or the eLux NG CD.

4.7.3 eterm for UNIX Systems

To use this software, you must have the “Eterm 97801 terminal emulation” (eterm) package installed.

eterm is a terminal emulation suite for UNIX systems that includes the following emulations: Siemens 97801 (7 & 8 bit, Sinix or Reliant), ANSI, AT386, BA-80, VT320
Information on how to configure the key mapping file (such as for special sequences) is provided below. For further information on how to configure eterm, see the *eterm Administrator’s Guide*, available for download at www.myelux.com (log on, go to “Manuals” > “Emulations”) or on the eLux NG CD.

4.7.3.1 Key Definition File “eterm.map”

Technical details:

File name:	eterm.map
File format:	UNIX
File path:	/setup/eterm
Automatically installed during installation?:	No, must be created

Tip Do not edit elux.map using Notepad, which will convert it to an MS-DOS® text file.

The default eterm keyboard mapping suffices for most keyboards and emulations (VT320, 97801, etc.).

In addition, elux supports user-defined keyboard mapping. To perform this:

1. Create a new UNIX text file. Acceptable editors include “vi” on UNIX machines or “Programmer’s File Editor” on Windows machines.
2. Enter the values in the format described below.
3. Save the file as “eterm.map”.
4. Transfer it to the directory “/setup/eterm” on the Thin Client. (This is done easily using the “File Transfer” feature of Scout Enterprise – see the *Scout Enterprise Administrator’s Guide* for more information.)

The user-customized keyboard mapping file allows you to change the default mapping and/or implement your own sequences (such as special control sequences).

Format

In the file eterm.map, tabs are field separators. The first field must start in the first column:

<key symbol> *<modifier>* *<string>*

Parameters

<key symbol>	The key to modify (=character string).
<modifier>	The level switching value (=hexadecimal number).

<*string*> The character(s) that the key is to produce (=character string).

A detailed description of the parameters follows.

Key Symbol

This is the key to modify. The parameter format is character string.

To view key symbols, open a local shell and enter the following command, which displays the keyboard mapping of the local X server:

```
xmodmap -pke | more
```

The available key symbols are displayed in the format:

`keycode` <*keycode number*> = <*key symbol*>

The parameter <*keycode number*> can be ignored. Enter the string <*key symbol*> exactly as it is shown here in the file eterm.map.

Modifier – Level Switching

Each key can be in more than one state, or “level”:

1. pressing the key (unshifted)
2. pressing the key with Numlock on
3. pressing the key and the Shift button (shifted)
4. pressing the key with Shift-Lock on

etc.

Levels are specified using a modifier. The modifier is a preset hexadecimal number (base 16). A comprehensive list of level switching modifiers is shown in Figure 98.

Level Switching	Value
Unshifted	0
Shifted	1
Shift-Lock	2
Control	4
Alt (mod1)	8
Numlock (mod2)	10
Alt Gr (mod3)	2000

Figure 98: Level switching

Modifiers can be combined, for example, Shift + Numlock. In this case, add the level switching modifiers using hexadecimal addition (8+2 = A, not 10).

In the file eterm.map, it is highly recommended that for each key you enter multiple entries corresponding to different levels. For example, you could map the following levels:

1. the key alone (level = ”unshifted”)
2. key + Shift-Lock
3. key + Numlock
4. key + Numlock + Shift-Lock

Tip We recommend configuring each key in the mapping file twice, with and without Numlock.

If you are running eterm on a Thin Client running eLux NG software, when the Thin Client boots, by default the Numlock key is activated. Thus, in eterm.map you should have an entry for unshifted (modifier=0) and Numlock (modifier=10) for each key. If you just map the key for

unshifted, then no mapping will occur if the Numlock key is accidentally on! This is one of the most common errors.

String

The character(s) that pressing the key should produce. The parameter format is character string.

For a list of character strings, enter the command `infocmp` on the host. You will see the character sequences the host accepts for different terminals.

For a list of ASCII control character sequences, see the following table. CTRL = ^ so the key sequence you would enter for the parameter <*string*> is always ^ plus the key listed in the second column. For example, ^[would produce the ESC character (0x1B). (For the character ^ itself, enter it twice: ^^)

Control Character (Mnemonic)	CTRL + Key
NUL	@
SOH	A
STX	B
ETX	C
EOT	D
ENQ	E
ACK	F
BEL	G
BS	H
HT	I
LF	J
VT	K
FF	L
CR	M
SO	N
SI	O
DLE	P
DC1	Q
DC2	R
DC3	S
DC4	T
NAK	U
SYN	V
ETB	W
CAN	X
EM	Y
SUB	Z
ESC	[
FS	\
GS	]

Control Character (Mnemonic)	CTRL + Key
US	–

Figure 99: Key sequences for ASCII control characters for eterm.map

Example for eterm.map

For a VT320 emulation, assume that you want to assign the keys F1 to F4 with the codes for the VT320 keys PF1 to PF4 (ESC OP, ESC OQ, ESC OR, ESC OS).

In the example that follows, each key is mapped four times for the following levels:

1. Normal
2. Shift Lock
3. Numlock
4. Shift Lock + Numlock.

The eterm.map file is as follows:

```
                                                    Level Mapping
# Enter a pound symbol in the first
# column to comment out a line.
F1                0                ^[OP             1. Normal
F1                2                ^[OP             2. Shift Lock
F1                10               ^[OP             3. Numlock
F1                12               ^[OP             4. Shift Lock + Numlock
F2                0                ^[OQ                etc.
F2                2                ^[OQ
F2                10               ^[OQ
F2                12               ^[OQ
F3                0                ^[OR
F3                2                ^[OR
F3                10               ^[OR
F3                12               ^[OR
F4                0                ^[OS
F4                2                ^[OS
F4                10               ^[OS
F4                12               ^[OS
```

Troubleshooting

If the customized key mapping does not work, answer the following questions regarding eterm.map:

1. Did you mix upper and lowercase? (case-sensitive)
2. Is the file name “eterm.map”?
3. Is the file path “/setup/eterm” on the Thin Client?
4. Is it a UNIX text file?

etc.

4.7.4 X11 for X Applications Using the Local X Server

The X11 server developed by The XFree86 Project, Inc (http://www.xfree86.org/) and its contributors is included in the base OS. No additional software must be installed.

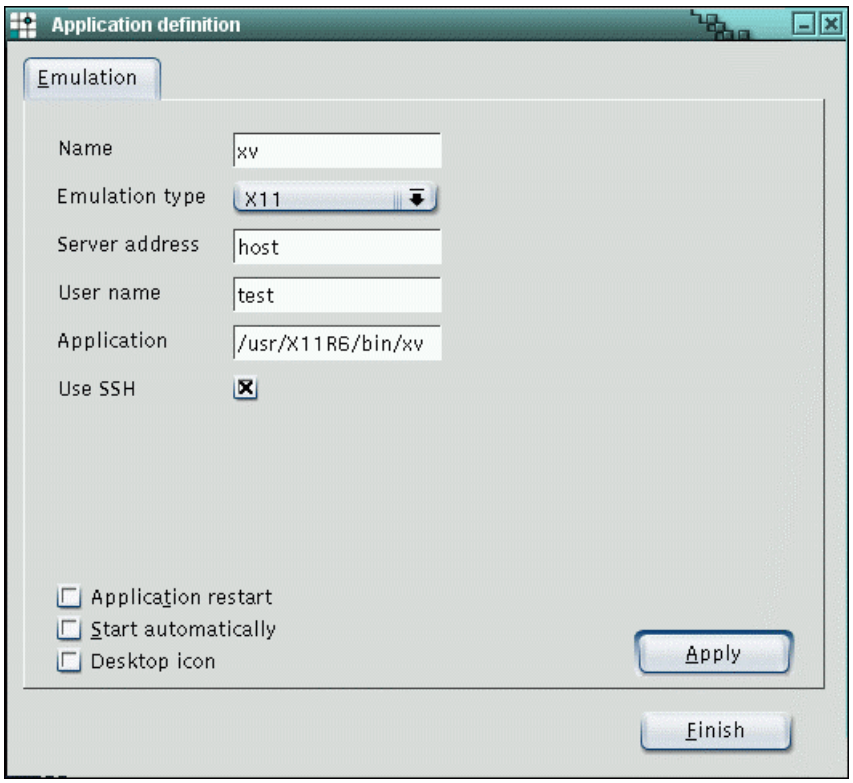


Figure 100: Application definition dialog box for an X11 emulation

⇨ To configure an X11

From the **Configuration** tab, click **New**.

1. The **Application Definition** dialog box appears. Click the **Emulation** tab.
2. Click **X11** in the **Emulation type** list. A series of fields appears.
   - **Name**: Enter an appropriate name for this application, such as “X11.”
   - **Server address**: Enter the IP address (or name) of the UNIX server.
   - **User name**: Enter the username on the UNIX server.
   - **Application**: Enter the X application name with its complete path.
   - **Use SSH**: If selected, the X11 session is started via the Secure Shell (SSH) protocol. Only the public key authorization is permitted (see page 170 for instructions on how to set a public key).
3. **Application restart**: Click to select to immediately reconnect after the user logs off. When this feature is selected, the application automatically starts when the Thin Client starts or restarts.
4. **Start automatically**: Click this check box to open the session when the terminal starts.
5. **Desktop icon** Creates a desktop shortcut for this application on the eLux NG desktop.
6. Click **Finish**.

Note You must register the host name of the Thin Client on the server by creating the user "elux" in the file .rhosts in the user's home directory.
Example: `xsklaus.unicon-ka.de elux`

For more information on rsh services, please refer to your UNIX server's man page.

Note Useful additional software is Accelerated-X™ Display Server, an accelerator for X11 applications. This software is licensed and can be purchased from UniCon Software GmbH (see www.myelux.com) or your eLux NG supplier. Not available for all hardware platforms. Accelerated-X requires a Matrox graphics card.

4.7.5 XDMCP

You can configure an X terminal using X Display Manager Control Protocol (XDMCP). This functionality is included in the base OS.

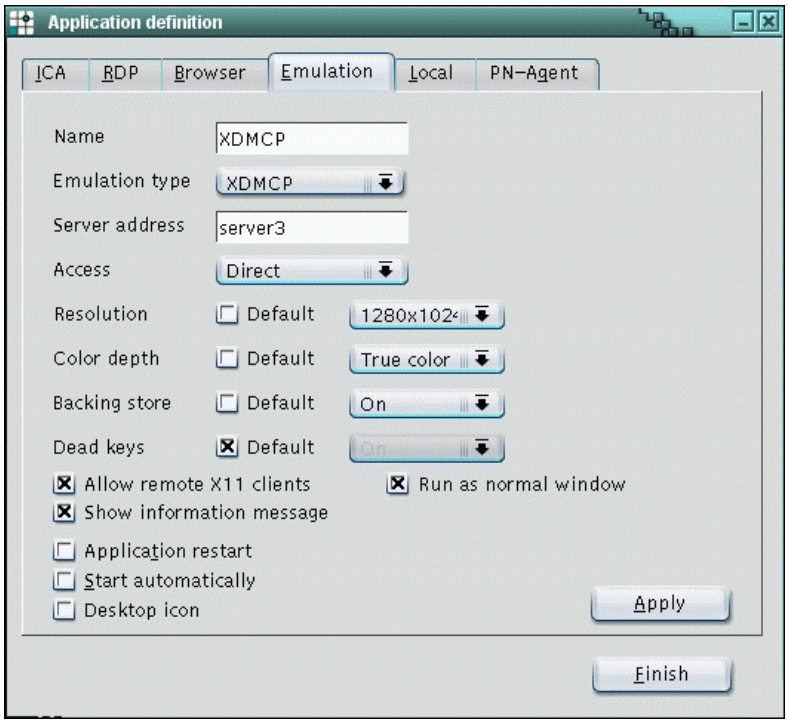


Figure 101: XDMCP session

⇨ To configure an XDMCP session

From the **Configuration** tab, click **New**.

1. The **Application Definition** dialog box appears. Click the **Emulation** tab.
2. Click **XDMCP** in the **Emulation type** list. A series of fields appears.
   - **Name**: Enter an appropriate name for this application, such as "XDMCP."
   - **Server address**: Enter the IP address (or name) of the UNIX server.
   - **Access**: Choose the mode:

     Direct: Direct connection to the defined UNIX system.

     Indirect: The defined UNIX system is searched for a list of servers which is then displayed.

     For the following parameters, if "Default" is selected, the settings in the eLux NG starter (**Setup** > **Screen**) will be used.
   - Set the **Resolution** and **Color depth.**

- **Backing store**: Saves screen information to the local X11 server on the thin client. This increases the screen refresh speed when the network connection is slow (especially noticeable by ISDN); however, the main memory requirements are large (128 MB or higher).
- **Dead keys**: Maps exist that define several “dead keys” on the keyboard. Dead keys make it possible to entered accented combination characters. A dead key combination means that you press two keys one after the other (press the first key and release it, then press the second key and release it) in order to form a single character. In general, you press a key for the accent you want (nothing happens), then a key for the letter to apply to accent to (the accented combination character appears).

  For example, pressing “`” on the U.S. international keyboard produces nothing, but subsequently typing “e” produces “è”. Other keyboard layouts may produce accented characters in other ways (on the French keyboard there is a key that produces “è” directly).

  By default, dead keys are active. If you use an application that is incompatible with dead keys, click to deselect.
- **Allow remote X11 clients**: Allows remote X11 clients to connect to the local Thin Client.
- **Show information message**: Pop-up message that appears when an XDMCP session is started. Can be deactivated.
- **Run as normal window** To use this feature, you must have the “Xnest” (xnest) package installed.
  By default, an XDMCP session runs in its own console. The key combinations for switching between consoles are described below.
  Select this option to run the XDMCP session directly in the eLux NG desktop. No switching is required.

3. **Application Restart:** Click to select to immediately reconnect after the user logs off. When this feature is selected, the application automatically starts when the Thin Client starts or restarts.
4. **Start automatically:** Click this check box to open the session when the terminal starts.
5. **Desktop icon** Creates a desktop shortcut for this application on the eLux NG desktop.
6. Click **Finish**.

To enable sound, go to **Setup** > **Multimedia** and click to select **Enable sound in XDMCP sessions**. Note: The application must be e-sound system compatible.

An XDM session uses a virtual screen. A new console is started. Use the shortcut key CTRL + ALT + F1 to move to the eLux NG screen. To switch to the XDM screen, use CTRL + ALT + F2. Up to two XDM sessions at a time are possible (switch to the second open XDM session using CTRL + ALT + F3).

To close the session, move to the eLux NG screen, highlight the active XDM session and click **Disconnect**.

Note Multiple consoles are not supported by all hardware platforms, due to large resource use. In this case, when you start an XDMCP session, a pop-up dialog box appears informing you that all active sessions are about to be disconnected, giving you the chance to cancel. When you click **OK**, all eLux NG sessions are stopped and the XDMCP session is started. Return to the eLux NG desktop by disconnecting from your XDMCP server.

For more information on consoles, see “3.5.2 Consoles.”

4.7.6 VNC

To use this software, you must have the “VNC client” (vnc) package installed.

A VNC (Virtual Network Computing) viewer allows you to connect to a VNC server or to mirror a Thin Client.

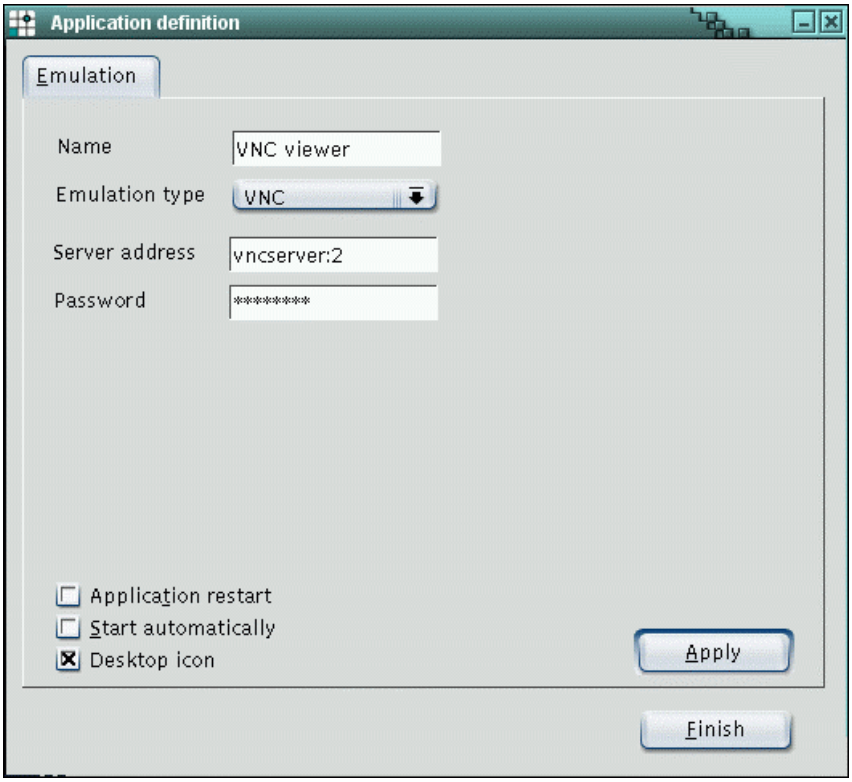


Figure 102: VNC viewer

⇨ To configure a VNC session

From the **Configuration** tab, click **New**.

1. The **Application Definition** dialog box appears. Click the **Emulation** tab.
2. Click **VNC** in the **Emulation type** list. A series of fields appears.
   - **Name**: Enter an appropriate name for this application, such as “VNC.”
   - **Server address**: Use the following format (see below):
     <IP address or name of the VNC server>:<display number>
   - **Password:** Enter the password of the VNC server. If you are connecting to a Thin Client, enter the mirroring password saved to the Thin Client, if it exists.
   - **Application Restart:** Click to select to immediately reconnect after the user logs off. When this feature is selected, the application automatically starts when the Thin Client starts or restarts.
   - **Start automatically:** Click this check box to open the session when the terminal start.
   - **Desktop icon** Creates a desktop shortcut for this application on the eLux NG desktop.
3. Click **Finish**.

To connect to another Thin Client (for example, for help desk support), the eLux NG VNC server on the target Thin Client must be activated. Do this by activating the mirroring options on the target Thin Client. See chapter “3.16 Mirroring”.

The following table lists the display numbers:

Session	Display number
eLux NG desktop	0
1st XDMCP session	1
2nd XDMCP session	2

Not all hardware platforms support multiple displays.

4.7.7 PowerTerm InterConnect

To use this software, you must have the “PowerTerm InterConnect” (powerterm) package installed.

PowerTerm® Interconnect from Ericom® Software allows you to connect to IBM Mainframe, IBM AS/400,Unix, VAX/Alpha OpenVMS, Tandem (NSK), HP-3000 and Data General. The following emulations can be simulated:

- **IBM** 3270 (TN3270E), 3179, 3278, 3279, 5250 (TN5250 with device name support), 3477
- **Digital** VT52, VT100, VT220, VT320, VT420, VT520, VT525
- **ANSI** BBS-ANSI, SCO-ANSI, AT386
- **Other** Wyse (50/60), Data General D-412, Siemens 97801, Televideo TVI 925/950, AIXterm

This is a licensed product. The software includes a 30-minute trial period. To purchase a license, please contact sales@myelux.com. The license is distributed using the Scout Enterprise management tool.

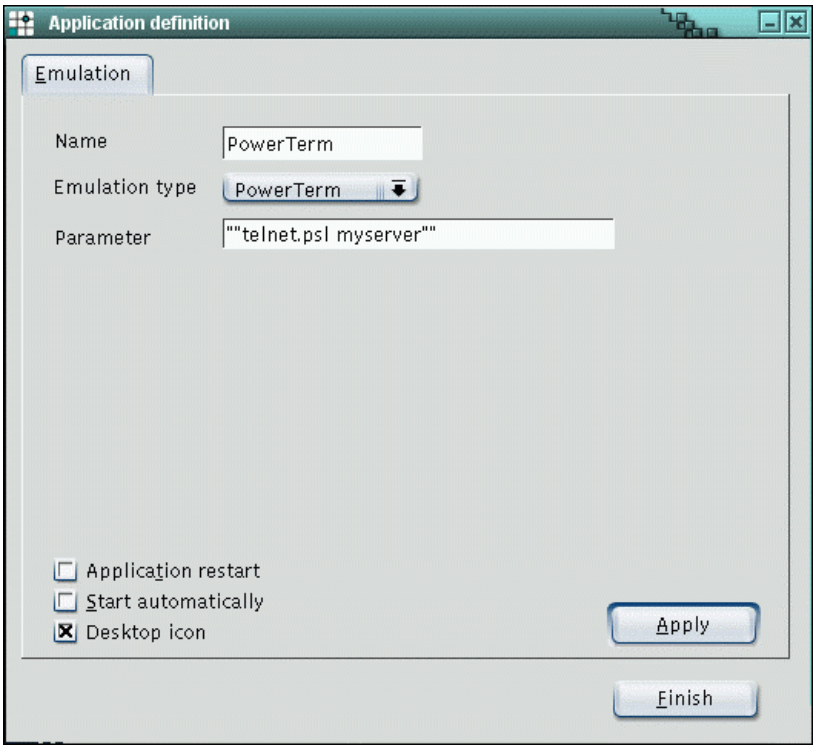


Figure 103: PowerTerm configuration

⇨ To start PowerTerm InterConnect

From the **Configuration** tab, click **New**.

1. The **Application Definition** dialog box appears. Click the **Emulation** tab.
2. Click **PowerTerm** in the **Emulation type** list. A series of fields appears.
   - **Name**: Enter an appropriate name for this application, such as “PowerTerm.”
   - **Parameter**: (optional) If you leave this field blank, the default setup file (ptdef.pts) will be used. Alternatively, you can enter one of the following:
     - **PowerTerm setup file** A customized setup file. It must have the ending *.pts. Example: `myfile.pts`
     - **Parameters + PowerTerm setup file** Enter accepted PowerTerm parameters, followed by the customized setup file. Example: `-no-menu -fullscreen myfile.pts`
     - **PowerTerm script** Enter an accepted Power Script Language (*.psl) enclosed in double quotation marks (“”). Example: `“”telnet.psl myserver””`

     See the PowerTerm documentation for more information on PowerTerm parameters and scripts.
   - **Application Restart:** Click to select to immediately reconnect after the user logs off. When this feature is selected, the application automatically starts when the Thin Client starts or restarts.
   - **Start automatically:** Click this check box to open the session when the terminal start.
   - **Desktop icon** Creates a desktop shortcut for this application on the eLux NG desktop.
3. Click **Finish**.
4. From the **Applications** tab, double-click or use the **Connect** button to run the application.
5. In the **Communication** menu select **Connect**. The **Connect** dialog box opens. Set the **Terminal Type** (emulation), the **Terminal ID** (if necessary) and the appropriate **Session Type**. Fill in the appropriate parameter fields and click **Connect**.

The configuration is saved to a file with the extension "pts". The configuration files must be located in the directory “/setup/PowerTerm/” (or “/setup/local/PowerTerm”). To create a new configuration file, start PowerTerm, configure your settings and save the file using a different name (**File** menu > **Save terminal setup as**). When you open a connection (**Communication** menu > **Connect**), you can select the configuration file by clicking on the browse button next to “Setup File” in the “Upon connection run” area. Initially only the default configuration file (ptdef.pts) is available.

You can transfer a configuration file to many Thin Clients using the “File Transfer” feature of Scout Enterprise – see the *Scout Enterprise Administrator’s Guide* for more information.

For information on configuring PowerTerm, please see the Ericom documentation available at www.ericom.com or the eLux NG CD.

4.8 Local

eLux NG offers an easy-to-use graphical user interface (the so-called “starter”). All configuration settings and application definitions can be made using point-and-click. No Linux knowledge is required.

Because eLux NG is Linux-based, you also have the option of entering commands directly in the command-line interface (CLI). It helps if the administrator has experience either with Linux or using a CLI (such as the Windows CLI). Selected commands are provided in this manual.

The command line does not replace the GUI, rather it extends the options available to experienced administrators.

The **Local** tab allows you to enter a command just as you would from a local shell. There are two types of local commands available:

- predefined (XTerm, resource display or SSH)
- user defined (the so-called “customized commands”)

4.8.1 XTerm (Local Shell)

The terminal window is useful for troubleshooting and for defining applications interactively. For example, if you are experienced with using the command line, you can type in the command line for the application, see if it works correctly and test different options. You can then configure that application using the eLux NG GUI or by entering that same command line into the starter (see 4.8.4 User-Defined Commands). Using UNIX commands and the UNIX editor vi, you can browse local directories, edit configuration files, or move files between the Thin Client and mapped SMB drives (such as log files to send to your support team).

The predefined command **XTerm** opens a local shell. The user is `elux` and has no root authorization.

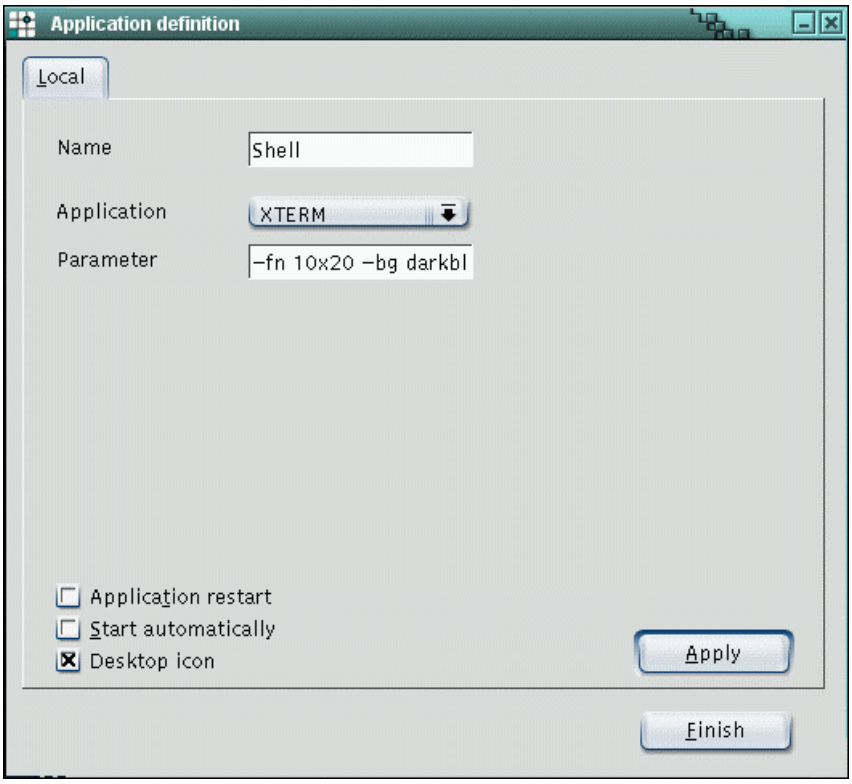


Figure 104: Local shell (XTerm)

⇨ To configure a local shell

From the **Configuration** tab, click **New**.

1. The **Application Definition** dialog box appears. Click the **Local** tab.
   - **Name**: Enter an appropriate name for this application, such as “shell.”
   - **Application**: Select **XTERM**.
   - **Parameter:** (optional) Enter the desired parameter. See the examples below.
   - **Application Restart:** Click to select to immediately reconnect after the user logs off. When this feature is selected, the application automatically starts when the Thin Client starts or restarts
   - **Start automatically:** Click this check box to open the session when the terminal starts.
   - **Desktop icon** Creates a desktop shortcut for this application on the eLux NG desktop.
2. Click **Finish**.

Example 1: Setting font and color parameters

Enter the following in the **Parameter** box:

```
-fn 10x20 –bg darkblue –fg yellow
```

fn	font
10x20	font size (big)
bg	background color
fg	foreground color

Example 2: Setting font and color parameters and calling a program

Enter the following in the **Parameter** box:

```
-fn 10x20 –bg navy –fg white –e telnet –l schmidt myhost
```

fn	font
10x20	font size (big)
bg	background color
fg	foreground color
-e	parameter to call a program
telnet	ASCII program
-l schmidt	program-specific parameter
myhost	host required by telnet program

For more information see the man pages of a Linux system.

Tip: To copy in XTerm, click the middle mouse button.

The properties for all X applications are set in the resource file “Xdefaults” located in `/setup`. For more information on Xdefaults, see the *Scout Enterprise Administrator’s Guide*.

4.8.2 Resource Display

This predefined command calls a program that displays the current resource use (such as memory, CPU). This can be used for diagnostics. To use this program, you must have the software “Resource info display“ (resinfo) installed. It is located in the “Desktop Tools” (dtt) package.

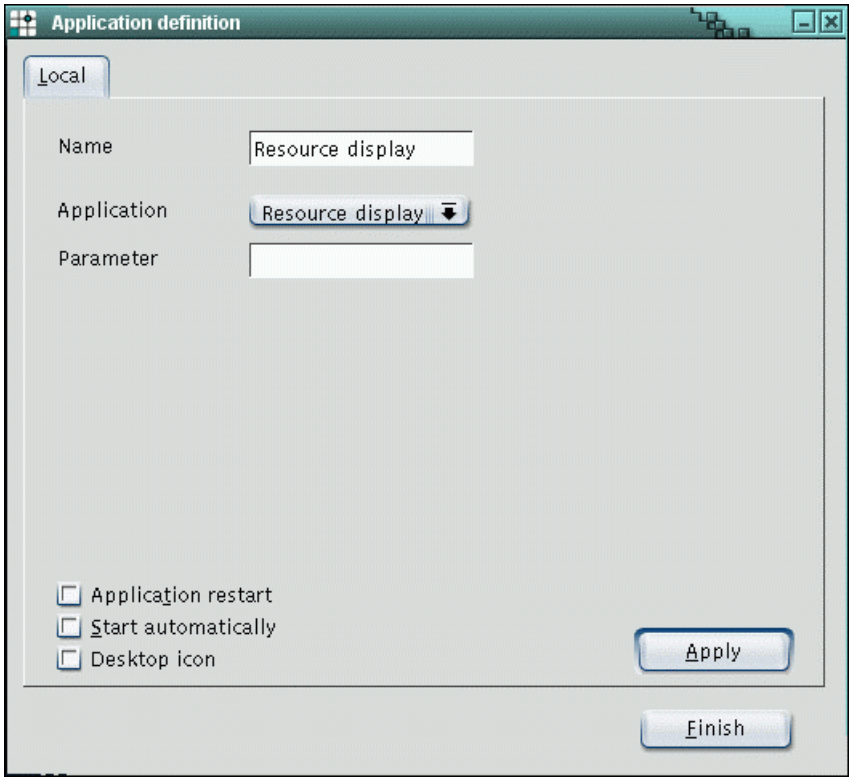


Figure 105: Resource Display

⇨ To configure a resource display

From the **Configuration** tab, click **New**.

1. The **Application Definition** dialog box appears. Click the **Local** tab.
   - **Name**: Enter an appropriate name for this application.
   - **Application**: Click **Resource display**.
   - **Parameter:** Leave blank.
   - **Application Restart:** Click to select to immediately reconnect after the user logs off. When this feature is selected, the application automatically starts when the Thin Client starts or restarts
   - **Start automatically:** Click this check box to open the session when the terminal starts.
   - **Desktop icon** Creates a desktop shortcut for this application on the eLux NG desktop.
2. Click **Finish**.

4.8.3 Secure Shell

This predefined command calls a local client that allows you to connect to a remote Secure Shell (SSH) server. The software package “SSH Tools“ (ssh) must be installed.

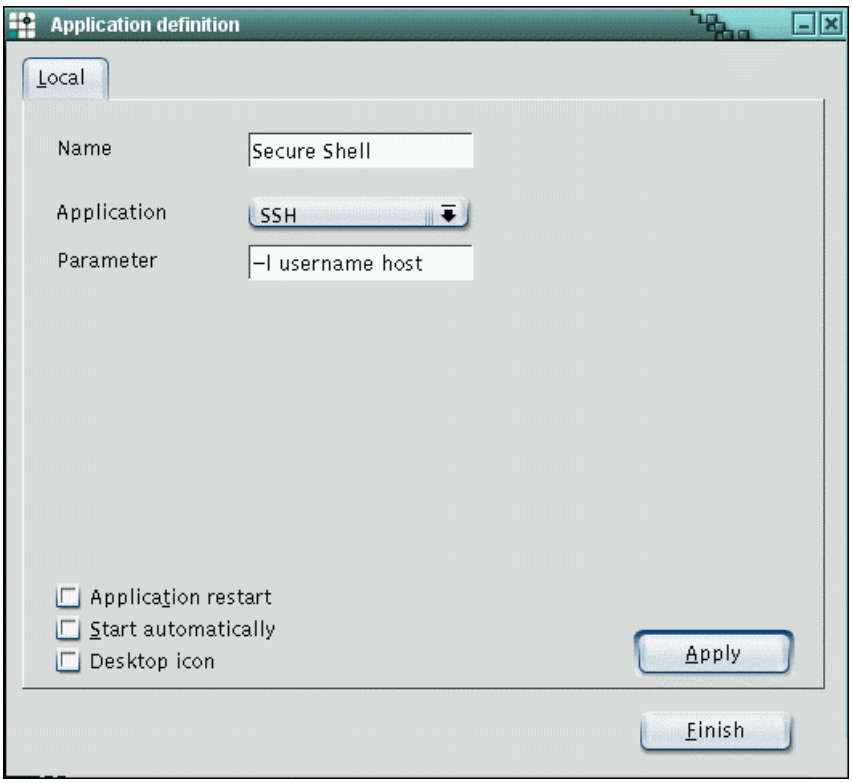


Figure 106: Application definition dialog box for SSH

⇨ To configure SSH

From the **Configuration** tab, click **New**.

1. The **Application Definition** dialog box appears. Click the **Local** tab.
   - **Name**: Enter an appropriate name for this application.
   - **Application**: Click SSH.
   - **Parameter**: Enter the user and the remote host, as shown in Figure 106, in the following format: `-l` <*username*> <*host*>. See “User Authorization” below.
   - **Application Restart**: Click to select to immediately reconnect after the user logs off. When this feature is selected, the application automatically starts when the Thin Client starts or restarts
   - **Start automatically**: Click this check box to open the session when the terminal starts.
   - **Desktop icon** Creates a desktop shortcut for this application on the eLux NG desktop.
2. Click **Finish**.

Password Authorization

SSH server settings determine the type of authorization (password or key) needed to connect.

If you want to connect using a password, the SSH server must be configured for password authorization.

To connect using password authorization, open a session and enter the password. In the future, you must enter this password every time you connect to the server.

Public Key Authorization

SSH server settings determine the type of authorization (password or key) needed to connect.

The authentication type – RSA or DSA – required to start a session is configured on the server. Older server support RSA version 1. Newer servers support RSA version 1 and in addition RSA version 2 and DSA version 2.

Each user uses the program ssh-keygen to generate a public/private key pair. The key pair is generated locally. The public key (*.pub) must be transferred to the server that the user will log on to. The server knows the public key, however only the user knows the private key. This is typical asymmetrical encryption.

⇨ To connect using a public key

1. Open a local shell and type:

   `ssh-keygen -t` <authentication type>

   where <authentication type> =

   `rsa1` : generates the protocol for version 1 RSA public authentication key
   `rsa` : generates the protocol for version 2 RSA public authentication key
   `dsa` : generates the protocol for version 2 DSA public authentication key

2. At the “where to locate the files” prompt, press ENTER.
3. At the passphrase prompt,
   - Enter a passphrase to enter this phrase every time you establish a connection to the server.
   - Press ENTER to avoid having to enter a passphrase in the future.
4. The program generates the keys using the authentication parameter entered in step 1 and saves them to the following directory:

   `rsa1` (version 1 RSA) : /setup/ssh/identity
   /setup/ssh/identity.pub

   `rsa` (version 2 RSA) : /setup/ssh/id_rsa
   /setup/ssh/id_rsa.pub

   `dsa` (version 2 DSA) : /setup/ssh/id_dsa
   /setup/ssh/id_dsa.pub

5. The contents of the public key file (*.pub) should be entered in the file `$HOME/.ssh/authorized_keys` on all SSH servers the user is allowed to log on to using the public key (where $HOME is the user’s home directory).

If you know which authentication type your server uses, you can create a single authentication key pair. However, if you do know the authentication type, all is not lost – run the program ssh-keygen three times using the three different authentication parameters. You will then have three key pairs for all three authentication types. Save all three public keys to $HOME/.ssh/authorized_keys, as in step 5. Enter one key per line. The keys that are not needed will be ignored.

For more information on SSH server configuration, ask the system administrator of the remote host.

4.8.4 User-Defined Commands

In some hardware platforms, “Customized Commands” is called “Custom”.

Defining local commands is special – it allows you to define applications which can be called within a shell. (Note that the average user may not have the necessary knowledge about commands.)

The user must be authorized to start the applications. All commands are carried out by the UNIX user “eLux NG” (UID = 65534).

We recommend that you test whether the command works by calling it from within an XTerm session before entering it in the **Application definition** dialog box. This is the only way you will receive feedback via error messages. You will not receive feedback when you enter it in the **Local** tab, as no error messages are displayed when it is called from eLux NG.

If you enter a command that does not call an X-capable application, you will not see anything when it is carried out.

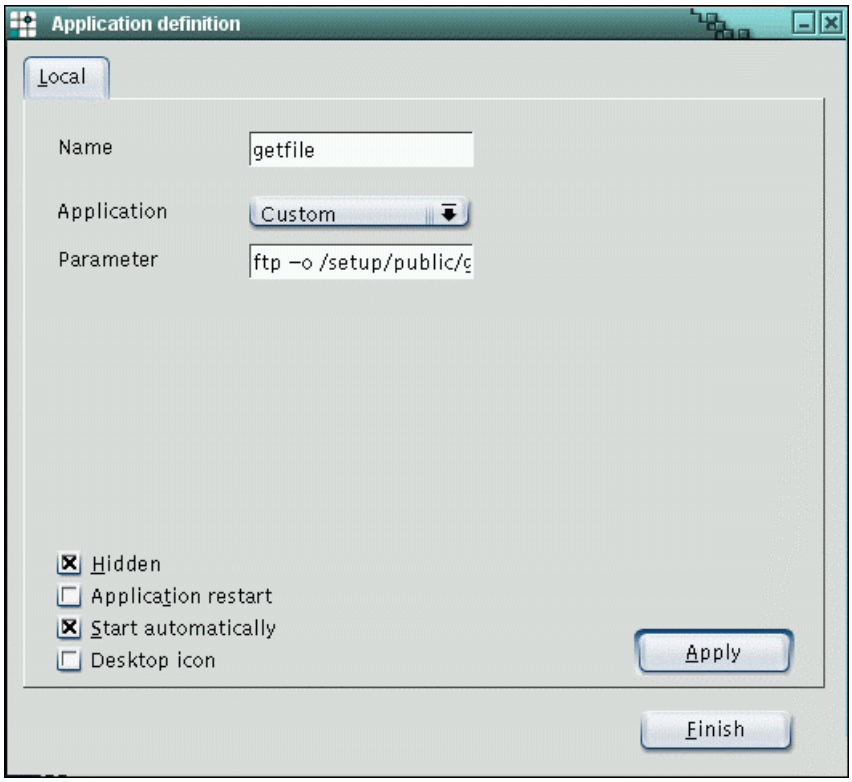


Figure 107: Customized commands

⇨ To enter a command

From the **Configuration** tab, click **New**.

1. The **Application Definition** dialog box appears. Click the **Local** tab.
   - **Name**: Enter an appropriate name for this application.
   - **Application**: Click **Customized**.
   - **Parameter:** Enter the desired command, including all program parameters. See the examples below. For more information see the man pages of a Linux system.
   - **Hidden:** Does not display the application in the **Application** tab.
   - **Application restart:** Click to select to immediately reconnect after the user logs off. When this feature is selected, the application automatically starts when the Thin Client starts or restarts
   - **Start automatically:** Click this check box to open the session when the terminal starts.

- **Desktop icon** Creates a desktop shortcut for this application on the eLux NG desktop.

2. Click **Finish**.

If you select the option “Hidden,” you must select “Start automatically” (or “Application restart”) for the command to run.

Example 1: Retrieve any file from an FTP server automatically

Enter the following:

```
ftp –o /setup/public/getfile ftp://user:passwd@myftpserver/getfile
```

This command is entered on one line. The parameter `–o` describes the target location and target name of the file you want to get from the FTP server, followed by the name of the FTP server the file resides on.

Files can also be retrieved from a Web server.

Example 2: Retrieve any file from a Web server automatically

```
ftp –o /setup/local/eterm/eterm.map http://mywebserver/confiles/eterm.map
```

This command is entered on one line. Keep in mind that files can only be transferred to the local directories `/setup/public` and `/setup/local/`<*application*>. Further, the memory area is restricted.

To see the current memory usage, enter the shell command `df` (=disk free) to see free disk space and `df –i` to see the number of I nodes. For example on a 32-MB flash, data saved in `/setup` cannot exceed 512 KB or 100 files.

Further line commands and parameters can be found in the product’s online documentation or the Internet.

“Start automatically” with “Customized command”

You can use the customized command features to retrieve a configuration file, as in the examples above. However, the order in which applications are started automatically (**Start automatically** check box) is not defined. If both the application and a local command to get its configuration file are set to “Start automatically,” this application may be started before the configuration file arrives. If this conflict occurs upon start, restart the desktop.

4.8.5 Calculator

To use the desktop calculator, you must have “X calculator” (xcalc) activated. It is located in the “Desktop Tools” (dtt) package.

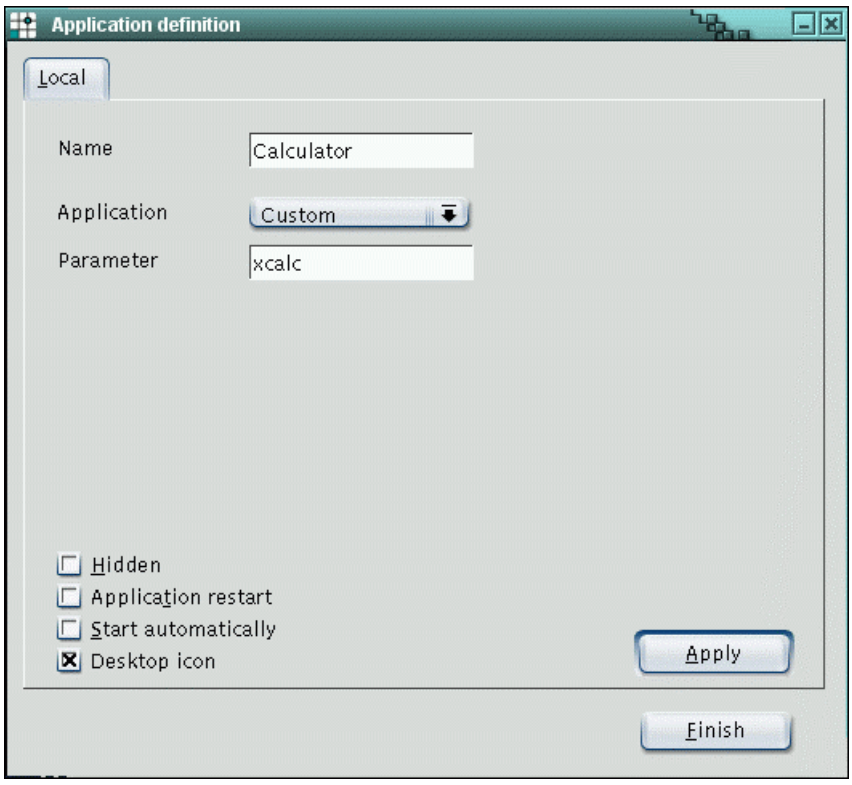


Figure 108: Calculator

⇨ To configure the calculator

From the **Configuration** tab, click **New**.

1. The Application Definition dialog box appears. Click the **Local** tab.

Name	Enter an appropriate name for this application.
Application	Click **Customized**.
Parameter	Enter `xcalc`.
Hidden	Does not display the application in the **Application** tab.
Application Restart	Click to select to immediately reconnect after the user logs off. When this feature is selected, the application automatically starts when the Thin Client starts or restarts
Start automatically	Click this check box to open the session when the terminal starts.
Desktop icon	Creates a desktop shortcut for this application on the eLux NG desktop.

2. Click **Finish**.

From the **Applications** tab, double-click or use the **Connect** button to run the calculator.

4.8.6 Adobe Acrobat Reader

To use Adobe® Acrobat® Reader®, you must have the software “Acrobat5” (Acrobat5) installed.

This section describes how to run Adobe Acrobat as a stand-alone program. To run Adobe Acrobat Reader as a browser plug-in, just install the software. No further configuration is required.

⇨ To run Adobe Acrobat Reader as a stand-alone program

From the **Configuration** tab, click **New**.

1. The Application Definition dialog box appears. Click the **Local** tab.

Name	Enter an appropriate name for this application.
Application	Click **Customized**.
Parameter	Enter the following: `acroread` <*parameters*> where <*parameters*> are optional command-line parameters. Note: Capitalization is important!
Hidden	Does not display the application in the **Application** tab.
Application Restart	Click to select to immediately reconnect after the user logs off. When this feature is selected, the application automatically starts when the Thin Client starts or restarts
Start automatically	Click this check box to open the session when the terminal starts.
Desktop icon	Creates a desktop shortcut for this application on the eLux NG desktop.

2. Click **Finish**.

From the **Applications** tab, double-click or use the **Connect** button to run the program.

You can view a PDF that is saved locally (such as in the directory `/tmp`) or on a network drive (SMB or NFS).

For more information on:

- **Available command-line parameters.** Open a local shell (see “4.8.1 XTerm (Local Shell)”) and type `acroread –helpall | more`. A list of available parameters is displayed. To scroll, press the spacebar.
- **How to use Acrobat Reader.** See the Acrobat Reader documentation available on the eLux NG CD-ROM. Also describes selected parameters.
- **Online help.** The Acrobat Reader Online help is not available.

Related information: See “4.5 Internet.”

4.8.7 File Manager

To use this feature, you must have the “File Explorer“ (qfm) package installed. It is in the package “Desktop tools“ (dtt) starting with version 1.4.2. In addition, the base OS starting with version 1.8.4 must be installed.

eLux NG is a Linux-based operating system. While no Linux knowledge is required to install and use eLux NG, to browse local files and directories using a local shell you need to know UNIX commands.

QFm is a QT-based file manager from Nick Battle (http://home.freeuk.com/nick.battle/). It allows you to browse local files and directories on the Thin Client in a graphical interface using the mouse rather than in a local shell using text commands. You can move, copy and rename files.

⇨ To run the File Manager

From the **Configuration** tab, click **New**.

1. The Application Definition dialog box appears. Click the **Local** tab.

Name	Enter an appropriate name for this application.
Application	Click **File manager**.
Parameter	(optional) Enter <*directory*> where <*directory*> is an optional parameter that enables you define the directory that will be displayed upon start. For example, `tmp` will display the tmp directory. By default, the root directory is displayed. Note: Capitalization is important!
Application Restart	Click to select to immediately reconnect after the user logs off. When this feature is selected, the application automatically starts when the Thin Client starts or restarts
Start automatically	Click this check box to open the session when the terminal starts.
Desktop icon	Creates a desktop shortcut for this application on the eLux NG desktop.

2. Click **Finish**.

Start the program with a double-click on the profile in the **Applications** tab or by marking the profile and clicking the **Connect** button.

How to use QFm

Using QFm is similar to other file managers, such as Windows Explorer. You can delete, copy, rename and change files.

Tool tips help you through the basic features (holding the cursor over an object displays a short description).

To understand how files are displayed, the highest-level directory is root. Root contains a number of subdirectories, including setup, tmp, smb, nfs.

- **setup** Contains permanent files needed by applications, such as configuration files. The contents are not deleted upon boot.
- **tmp** Contains temporary files needed by applications for this session. Deleted upon boot. Note: Browser, ICA and SAP cache is stored here. For improved performance, we recommend reducing allocated cache in the respective program or, in the case of the browser, defining a network drive for storing program files (“browser home directory”). See “3.10 Browser Home Directory.”
- **smb** Displays the currently mapped SMB drives. Note: Only defined SMB drives that are currently mounted are displayed. The user must connect to the SMB drive before it will be displayed. For information on mapping SMB drives, see “3.9 Drives.”
- **nfs** Displays the currently available NFS drives.

While using QFm is intuitive, we provide the following general guidelines and tips:

- The task bar provides one-click access to the most frequently used commands: Home, Display hidden files, Exit, Refresh, One directory up, Change directory, Shell, New window.

- To expand a directory , click once. To display that directory only in tree view, double-click. To return to root, click Home in the task bar or **File** > **Home**.
- To open a file, double-click. By default, applications have been preset for the following files (you must have the respective application installed):

Acrobat Reader	Opens *.pdf files.
Citrix ICA Client	Opens *.ica files.
MP3 Player	Opens *.mp3 files.
Opera, Mozilla, Firefox	Opens HTML files.
QT Text Editor	Opens *.cnf, *.conf, *.cpp, *.h, hosts, *.ini, *.java, *.log, printcap, readme, *.txt files. See “4.8.8 Text Editor.”
Wav Player	Opens *.wav files.

- You can bookmark frequently used files and directories by right-clicking on the file and selecting **Bookmark**. You can then jump directly to the file or directory using the **Bookmarks** menu.
- To open a shell, click Shell in the task bar or **File** > **Shell**.
- The error “Not an executable file“ means that the file cannot be displayed. Try installing the appropriate software or clicking with the right mouse button on a file and selecting **Open with** to display a list of available programs.

4.8.8 Text Editor

To use this feature, you must have the “Text Editor“ (qtt) package installed. It is in the package “Desktop tools“ (dtt) starting with version 1.4.2. In addition, base OS version 1.8.4 or later must be installed.

QT Text Editor is a simple QT-based text editor that offers basic editing features. You can copy, paste, find, undo, redo, select all text, etc. The files must be saved to the Thin Client or available on a network drive.

⇨ To run the text editor

Click with the right mouse button on an Applications category and select **Add**.

1. The Application Definition dialog box appears. Click the **Local** tab.

Name	Enter an appropriate name for this application.
Application	Click **Text editor**.
Parameter	(optional) Enter <*file name*> where <*file name*> is an optional parameter that enables you define the file that will be displayed upon start. Enter the complete file name. For example, `tmp/hosts` will display the hosts file located in the tmp directory. Note: Capitalization is important!
Application Restart	Click to select to immediately reconnect after the user logs off. When this feature is selected, the application automatically starts when the Thin Client starts or restarts

Start automatically	Click this check box to open the session when the terminal starts.
Desktop icon	Creates a desktop shortcut for this application on the eLux NG desktop.

2. Click **Finish**.

Start the program in the **Applications** tab with a double-click on the profile or by marking the profile and clicking the **Connect** button.

Tip

To access files on an SMB network drive, you must configure the SMB drive in advance. For information on how to configure SMB drives, see “3.9 Drives.” In addition, the user must know the SMB drive name. On the Thin Client, open the QT Text Editor. Click **File** > **Open** > **smb**, enter the network drive and click **Open**. This mounts the drive. It will then appear in the dialog box and can be selected. It remains mounted for the rest of the eLux NG session.

4.8.9 Movie Player

To use this feature, you must have the “Movie Player” (mplayer) package installed. In addition, install the individual subcomponents (FPMs) relating to the features you desire. In addition, the base OS starting with version 1.8.4 must be installed.

MPlayer is an open-source movie player from the MPlayer Project (http://www.mplayerhq.hu). It supports all common movie formats including DVD (including encrypted DVD), MPEG, DivX, AVI, ASF, RealVideo, Windows Media Video (.wmv), Quicktime (.mov) and others. The files can reside on the Thin Client, a network drive or the Internet.

This section describes how to run MPlayer as a stand-alone program. To run MPlayer as a browser plug-in (Mozilla only), install the software “MPlayer Mozilla support” (mplayer_plugger) in the package “Movie Player” (mplayer). No further configuration is required.

⇨ To run the movie player as a stand-alone program

Click with the right mouse button on an Applications category and select **Add**.

1. The Application Definition dialog box appears. Click the **Local** tab.

Name	Enter an appropriate name for this application.
Application	Click **Movie player**.
Parameter	Leave blank.
Application Restart	Click to select to immediately reconnect after the user logs off. When this feature is selected, the application automatically starts when the Thin Client starts or restarts.
Start automatically	Click this check box to open the session when the terminal starts.
Desktop icon	Creates a desktop shortcut for this application on the eLux NG desktop.

2. Click **Finish**.

Start the program in the **Applications** tab with a double-click on the profile or by marking the profile and clicking the **Connect** button.

Proxy settings are set using Scout Enterprise. For more information, see the *Scout Enterprise Administrator’s Guide.*

How to use MPlayer

While using MPlayer is intuitive, we provide the following general guidelines and tips:

- Access commands by clicking the buttons of the remote control. Alternatively, click with the right mouse button in the movie window. This opens the context menu.
- To play a DVD from a local drive, on the Thin Client start MPlayer. Insert the DVD in the drive. Click with the right mouse button in the movie window. In the context menu select **DVD** > **Open disk…** and browse for the DVD. To open a chapter, in the context menu select **DVD** > **Chapters** > <*chapter number*>. Note: MPlayer does not support chapter menus.
- To change the appearance, in the context menu select **Skin browser**. The **Skin Browser** dialog box is displayed. Select your desired theme.
- To configure settings, in the context menu select **Preferences**. The **Preferences** dialog box is displayed.
- You have two drivers available: xv, which provides hardware acceleration with a modern graphics card, and x11, which provides no scaling. If playback does not occur, try setting the driver to x11. This is done in the **Preferences** dialog box. The default driver is xv.

For more information on MPlayer, see the documentation available at http://www.mplayerhq.hu/DOCS/HTML-single/en/MPlayer.html.

4.8.10 NoMachine

To use this feature, you must have the software “NxClient” (nxclient) installed.

NoMachine from Medialogic S.p.A. enables a UNIX workstation to provide terminal server functionalities. NoMachine software is based on the NX Distributed Computing Architecture, a suite of open source technologies built on SSH and the X-Window System. NX also translates and embeds the RDP (Remote Desktop Protocol) used by Microsoft in its terminal server product family and VNC protocols into X/NX. NX is faster than VNC or X11 and can run on bandwidth as narrow as 10 kBit/sec. It enables users to compress and accelerate remote desktops like Windows, KDE, Gnome and CDE. NX lets you work fluently even across slow links like modems.

NX software consists of the following components:

- **NX server** The NX server is available for Linux and Solaris and is licensed per-server, not per-connection.
- **NX client** The client software is available for eLux NG and other platforms. All NX clients are free of charge.

⇨ To configure the NoMachine NX client

From the **Configuration** tab, click **New**.

1. The Application Definition dialog box appears. Click the **Local** tab.

Name	Enter an appropriate name for this application.
Application	Click **Customized**.
Parameter	Enter `nx.sh`.
Hidden	Does not display the application in the **Application** tab.
Application Restart	Click to select to immediately reconnect after the user logs off. When this feature is selected, the application automatically starts when the Thin Client starts or restarts.
Start automatically	Click this check box to open the session when the terminal starts.
Desktop icon	Creates a desktop shortcut for this application on the eLux NG desktop.

2. Click **Finish**.

From the **Applications** tab, double-click or use the **Connect** button to run the program.

How to use NX client

- The NoMachine NX server must be installed and running.
- A wizard appears the first time you run the software to help you through the initial configuration.
- For further information, see the NoMachine documentation available at www.nomachine.com.

Tip

- We recommend setting the “cache on disk” (**Configure** > **Advanced**) to zero.

For information on NoMachine, see www.nomachine.com.

4.8.11 Virtual Keyboard

To use this feature, you must have the software “Virtual Keyboard” (xvkbd) installed. It is in the package “Desktop tools“ (dtt) starting with version 1.4.2.

This is an open-source program to display a virtual keyboard on the screen. You can enter characters into a program using a mouse click. This is useful for kiosk terminals or for a workstation with a mouse but no keyboard.

⇨ To run the virtual keyboard

From the **Configuration** tab, click **New**.

1. The Application Definition dialog box appears. Click the **Local** tab.

Name	Enter an appropriate name for this application.
Application	Click **Customized**.
Parameter	Enter `xvkbd.sh`.
Hidden	Does not display the application in the **Application** tab.
Application Restart	Click to select to immediately reconnect after the user logs off. When this feature is selected, the application automatically starts when the Thin Client starts or restarts.
Start automatically	Click this check box to open the session when the terminal starts.
Desktop icon	Creates a desktop shortcut for this application on the eLux NG desktop.

2. Click **Finish**.

From the **Applications** tab, double-click or use the **Connect** button to run the program.

How to use the virtual keyboard

While using the virtual keyboard is intuitive, we provide the following general guidelines and tips:

- Run a program of your choosing that requires keyboard entry.
- Run the virtual keyboard. The keyboard window always appears on top. Click on a character using the mouse.
- By default, the character appears in the window of the last program used. To set the focus to a specific window, click **Focus** and the window of your choosing.

- By default, the virtual keyboard program uses the keyboard language setting from the eLux NG starter (see “3.5 Mouse / Keyboard”), assuming the language is supported, otherwise English will be used. To manually set the language for this session or to view a list of available languages, click **Main menu** > **Change Keyboard Layout**.

Tip

- To set the size and/or position, enter the following command in the **Parameter** field:
  `xvkbd.sh –geometry` <*width*>x<*height*>+<*x position*>+<*y position*>

  Examples:

`xvkbd.sh –geometry 600x200`	Set keyboard size to 600x200 pixel
`xvkbd.sh –geometry 600x200+200+0`	Set keyboard size to 600x200 pixel and position it above center
`xvkbd.sh –geometry 600x200+0-40`	Set keyboard size to 600x200 pixel and position it lower left

For further information, see the documentation available at http://homepage3.nifty.com/tsato/xvkbd/.

5 Troubleshooting

Following are solutions to various problems.

Section		Description
5.1	eLux NG Upgrade License	What to do when eLux NG is not licensed
5.2	Safe Boot	How to boot eLux in safe mode
5.3	Factory Reset	How to return eLux NG configuration to factory-delivered state
5.4	Solutions to Common Problems	Answers to common problems

5.1 eLux NG Upgrade License

eLux NG is a licensed product. You must pay for the product in order to use it.

When you order a Thin Client containing eLux NG from the factory, it is delivered with a license. No further action is required on your part. In normal use – including such procedures as firmware update or recovering the Thin Client - the license is not deleted. Once it is licensed, it is always licensed.

In rare occasions the license can be deleted or if you rewrite a non-eLux NG operating system with eLux NG, eLux NG will not be licensed. In this case you will need the so-called **eLux NG upgrade license**. There are two types:

1. eLux NG upgrade license to be entered in Scout

Format : xxxx-xxxx-xxxx-xxxxx

A license with the above format is to be distributed using the Scout Enterprise management software. It may be for one eLux NG upgrade license, can also be for many. The license must be activated via the Internet site www.myelux.com. When the license activation process is complete, eLux NG upgrade licenses are distributed by Scout Enterprise on a first come, first serve basis. That means the first unlicensed Thin Client to contact Scout Enterprise will receive an eLux NG upgrade license. License distribution takes place once. Remaining Scout Enterprise eLux NG upgrade licenses cannot be reactivated if unintentionally deleted from the Scout Enterprise software.

See the *Scout Enterprise*

A0

dministrator's Manual for a detailed description of the license activation process via the Internet.

2. Manual eLux NG upgrade license

Format : xxx-xxx-xxx-xxx-x

Your license is a manual eLux NG upgrade license if:

- it has the format: xxx-xxx-xxx-xxx-x
- you had to provide a host ID to your servicer to obtain the license
- the license is for one device only

In this case, you do not need to activate it via the Web. It is already activated. Enter it directly on the Thin Client as described below.

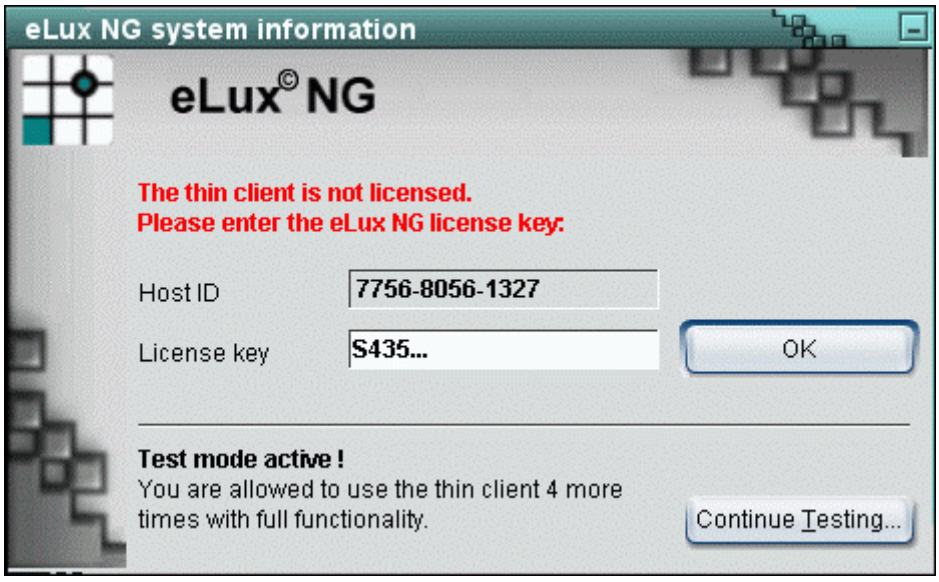


Figure 109: Message when eLux NG is not licensed

⇨ To enter a manual eLux NG license key

1. Start the terminal. If your system is unlicensed, you receive the **eLux NG system information** message box.
2. The **license key** you received from your eLux NG distributor is specific to this eLux NG terminal's host ID (to get your license, provide your supplier with the 12-digit terminal host ID displayed here). A manual license key has the format: xxx-xxx-xxx-xxx-x.
   Enter the complete 13-digit license key. Hyphens are not required.
3. Click **OK**. The terminal is licensed. Licensing is one-time only – eLux NG remains licensed even if you update firmware or perform a recovery.

5.2 Safe Boot

Default screen settings are set to values all monitors support. If after configuring the Thin Client you have massive screen distortion, resolution, frequency and color depth are most likely set to values your monitor does not support. In this case, switch off your monitor to avoid damage. Start the Thin Client in Safe Boot mode. Safe Boot allows you start the terminal in a mode which does not damage hardware. You can then correct screen settings. In addition, network capabilities are disabled. This allows you to change incorrect network hardware settings.

In Safe Boot, the eLux starter is displayed in English. If you had set a different application language, do not be concerned. User settings (**Setup** tab) and defined applications (**Configuration** tab) are not deleted. When you exit Safe Boot, your old language will be restored.

⇨ Procedure for Safe Boot

1. Switch off the Thin Client immediately.
2. Restart the Thin Client.
3. During the boot procedure, the supplier logo appears. Press the TAB key when the screen goes blank.
4. The eLux NG logo will be displayed, and then the prompt "Please enter admin password". Enter the terminal password ("elux" by default).
   - If an invalid password is entered three times, the terminal restarts.
5. At the prompt "factory reset (y/n)?" type n. You can now access eLux NG and make changes to settings in a mode that is safe for the monitor. Previous settings information is not lost.
6. Restart the Thin Client to exit Safe Boot mode.

5.3 Factory Reset

Factory reset returns the Thin Client to the factory-delivered configuration state. User settings (**Setup** tab) and defined applications (**Configuration** tab) are deleted. Firmware is not deleted.

⇨ Procedure for Factory Reset via Keyboard

1. Switch off the Thin Client.
2. Restart the Thin Client.
3. During the boot procedure press the TAB key within three seconds.
4. At the prompt “Please enter admin password” enter the terminal password (“elux” by default).
    - If an invalid password is entered three times, the terminal restarts.
5. At the prompt “factory reset (y/n)?” type y. Previous settings information and defined applications are deleted.

Alternatively you can initiate factory reset using the mouse.

⇨ Procedure for Factory Reset via Mouse

1. From the **Setup** tab, click the **Firmware** subtab.
2. Click **Default**.
3. Click **Yes** in the **eLux NG Starter** dialog box. eLux NG restarts.

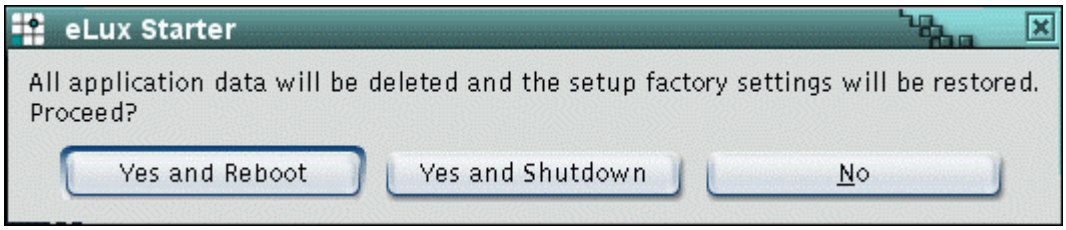

eLux Starter
All application data will be deleted and the setup factory settings will be restored.
Proceed?
Yes and Reboot
Yes and Shutdown
No

Figure 110: The Reset button in Setup > Firmware

Warning A Factory Reset deletes all defined applications and resets configuration settings to factory default.

5.4 Solutions to Common Problems

General

Problem: You can change settings in the tabs **Setup** or **Configuration**, but your changes are overwritten when the device is restarted.

Solution: Your Thin Client is managed. Remove it from or deactivate it in the Scout Enterprise software.

Ch. 3.4, “Screen”

Problem: eLux screen settings are incompatible with the monitor.

Solution: If you are no longer able to view the **Screen** tab, either attach a compatible monitor, perform a Recovery Installation, or change the settings remotely using the Scout Enterprise management software. Alternatively, you can start the terminal using Safe Boot. Safe Boot allows you start the terminal in a mode which does not damage hardware. You can then change eLux NG settings.

⇨ **Procedure for Safe Boot**

1. Switch off the Thin Client immediately.
2. Restart the Thin Client.
3. During the boot procedure, the BIOS information is displayed. When the screen goes blank, press the TAB key.
4. The eLux NG logo will be displayed, and then the prompt “Please enter admin password”. Enter the terminal password (“elux” by default).
   - If an invalid password is entered three times, the terminal restarts.
5. At the prompt “factory reset (y/n)?” type n. You can now access eLux NG and make changes to settings in a mode that is safe for the monitor. Previous settings information is not lost.
6. Restart the Thin Client to exit Safe Boot mode.

Ch. 3.4, “Screen”

Problem: Font server error (in the dialog box **Setup** > **Screen** > **New**).

Solution: ”Check the **Font server:Port** entry.

- The format is incorrect (font server:port), for example, the colon has not been entered, or the port number is missing or not a number.
- The font server name or address is incorrect.
- The font server cannot be reached.

Check the **Font path** entry.

- The path does not exist.
- There is no file named fonts.dir in, for instance, the following directory: /smb/share/dir or /nfs/host/dir

Ch. 3.6, “Firmware”

Problem: You are using an HTTP server. After starting the firmware update, the update stops and you receive one of the following errors:

```
Error 401: Unauthorized
```

```
Error 403: Forbidden
Error 404: File or directory not found
Error 406: Client browser does not accept the MIME type of the
           requested page (client problem)
Error 407: Initial proxy authentication required by the Web server
```

Solution: If an update is interrupted, click the **Details** button to display a detailed error message. Depending on the HTTP error that is displayed, take the appropriate actions. If you have checked that settings are correct, you can do the following:

1. Verify that the IDF is in the appropriate HTTP server directory.

2. Enter the MIME types. If you are using IIS version 6.0 or higher, you must enter the MIME types explicitly. If you are using a previous version IIS or a different HTTP server, see if defining the MIME types solves the problem. For more information, see "3.6.4 Microsoft Internet Information Server."

Ch. 3.7, "Security"

Problem: You no longer have the password for the terminal (=LocalLogin).

Solution: The Thin Client's password is at the same time the password for LocalLogin. Factory default is "elux". If you change and then forget LocalLogin's password, only a Recovery Installation can reset the password. All settings are reset to factory default.

Ch. 3.11, "Printer"

Problem: After you connect a locally attached printer and load the printer drivers to the Citrix MetaFrame ICA server, you log on to the terminal server computer. The printer is supposed to be autocreated and available to you in the Printers folder of your Terminal Server session. The printer does not appear in the Printers folder.

Solution: If the printer driver name on the thin client does not match the printer driver name on the terminal server computer exactly, the printer will not autocreate. On the thin client, correct spelling, capitalization and spacing.

In addition, on the Citrix MetaFrame ICA server verify the following:

1. In Citrix Connection Configuration double click the **ICA listener port**. Select the **Client Settings** button, ensure "Connect client printers at logon" is checked.

2. Ensure that the following boxes are not checked under the Client Settings Area:
   Disable Windows Client Printer Mapping
   Disable Client LPT Mapping

Both of these settings prevent client printers from being autocreated on the system, and prohibit the client printer from being manually added during the session.

For further MetaFrame configuration, see the Citrix documentation.

Ch. 3.13, "ISDN"

Problem: ISDN does not connect (not the first time you try to connect).

Solution: Check the ISDN error codes.

⇨ Procedure for troubleshooting ISDN connections

1. Open a local shell (XTerm)
2. On prompt type: `dmesg | xmessage – file -`

Problem: Connecting to the server or using Windows Explorer is extremely slow. The application stops responding, or “hangs.”

Solution: Automatic floppy drive mapping is active. Go to BIOS Setup on the Thin Client and deactivate the floppy controller setting.

Ch. 3.16, “Mirroring”

Problem: You want to initiate a mirroring session, but the Mirroring settings area on the target Thin Client is disabled.

Solution: The Mirroring settings area is disabled if the mirror package is not installed.

Ch. 4, “Configuring Applications”

Problem: The application does not start automatically when the Thin Client starts, although the **Start automatically** check box is selected.

Solution: If eLux NG is not licensed, applications cannot be started automatically.

Ch. 4.5.3 Web Tools

Problem: After clicking on a link to run a RealPlayer-supported file, the screen freezes and the keyboard does not work (NUMLOCK key does not respond).

Solution: When the screen freezes and the keyboard does not respond, the main memory has been used to full capacity. Most likely the file you just tried to download is too large for the available main memory. Generally, a pop-up message appears when memory usage has reached 95%, allowing you to quit applications and prevent a screen freeze. However, RealPlayer files may download and completely use available main memory before the pop-up warning can be sent.
Unfortunately, there is no way to solve this problem once it has occurred. You must restart the device.
You can, however, prevent the problem. In the future, avoid downloading oversized RealPlayer files and be aware of your memory size. To see the main memory available on the device, go to **Setup** > **General**.

Ch. 4.7.4, “X11 for X Applications Using the Local X Server”

Problem: X11 application does not start.

Solution: Check remote shell and command functionality.

⇨ **Procedure for troubleshooting remote shell applications**

1. Open a local shell (XTerm).
2. At the prompt type: `rsh` <*host name*> `-l` <*username*> `ls.`
3. If you receive the error message “permission denied," check the remote shell functionality on the UNIX server.

   If you receive other error messages, this indicates a problem with the command. Log on to your UNIX server, set the DISPLAY variable to your Thin Client’s address, and check the functionality of the command.

Problem: My X11 application (running on a remote machine) will not start. When connecting from the **Application** tab, the “Active” column displays **Yes** and then a short time later **No**.

Solution: Remote X11 applications are not allowed. Go to **Setup** > **Security** > “Local security” > **Permissions**. In the **Local security settings** dialog box select the check box **Allow remote X11 clients**.

6 Recovery Installation

During an eLux NG Recovery Installation, the Thin Client boots from a server over the network, loads network information from a so-called boot server", loads a boot file from a TFTP server, and overwrites the entire flash image with a default image retrieved from the recovery server. The software is overwritten with the recovery software and settings are returned to factory-delivered default settings.

A recovery can be used to solve the following problems:

- eLux NG cannot be booted anymore.
- The flash memory of the Thin Client does not yet contain a basic image.
- The password for LocalLogin has been changed from factory settings and is no longer known.
- You want to replace the current software on the flash memory with eLux NG.
- You want to make a factory reset.
- To update from eLux 1.x to eLux NG.
- When during update a message box appears saying a recovery is necessary.

Note: The Recovery procedures, which install the eLux NG Software to the flash of the Thin Client or make a factory reset of the Thin Client, are described in detail in our papers **Recovery Installation** and **Migration and Servertransfer.** These guides are provided on f www.myelux.com in the area Manuals / Documentation.

7 Shortcut Keys

Following is a list of shortcut keys:

CTRL+ALT+HOME	Password request for the Thin Client (and LocalLogin)
CTRL+ALT + ↑	Opens the window list, which allows you to switch between running applications (alternative to the taskbar). Scroll direction: left.
CTRL+ALT + ↓	Opens the window list, which allows you to switch between running applications (alternative to the taskbar). Scroll direction: right.
CTRL+ALT+F1	Moves to console 1 for the eLux NG desktop
CTRL+ALT+F2	Moves to console 2 for the first open XDM session
CTRL+ALT+F3	Moves to console 3 for the second open XDM session
CTRL+ALT+F4	Moves to console 4 for the messages during the boot phase and recovery phase
Cursor keys	Selects applications in the **Applications** and **Configuration** tabs
TAB key	Moves from button to button (changes the active button) in the eLux NG starter
ALT + <*underlined letter*>	Changes the active screen element in the eLux NG starter
CTRL+ALT+END	Starts screen saver, if installed. If an authentication server is used (LDAP, ADS), the password is preset with the user password ($ELUXPASSWORD).
CTRL+<*Win key*>	Opens the Taskbar Menu
SHIFT	Suppresses the application autostart function upon boot. After the eLux NG logo appears, the screen goes black, and the cursor appears as a clock, press and hold the SHIFT key (do not press and release).

Appendix 1: Desktop

In eLux 1.1, the starter was always started upon system boot and remained blended in during the entire session. This was distracting to some users. In NG, automatic start of the starter is an option that can be deselected by the administrator.

The taskbar has new features. For example, in eLux 1.1, applications were run using the starter. This led to the problem that the starter could not be blended out, because the user would then be unable to start sessions. In eLux NG, This problem has been eliminated by implementing one-click access to the applications directly from the taskbar.

Finally, the desktop itself has been greatly enhanced.

These changes are described in detail below.

A. eLux NG Desktop

The desktop consists of the starter, the taskbar and workspaces.

The **starter** contains three tabs with the following functions:

- **Setup** Configuring eLux NG settings. See chapter “3 Setup.”
- **Configuration** Defining applications. See chapter “4 Configuring Applications.”
- **Applications** Starting applications and shutdown options. See chapter “2.7 Sessions” and “2.8 Shut Down.”

The **taskbar** allows you to minimize applications, switch between applications and workspaces, and start/minimize the starter.

Users of eLux 1.1 will be happy to learn that **workspaces** are a new feature of eLux NG. Note: This feature is recommended for advanced users.

B. Desktop Options

Access the taskbar/starter/workspace options by going to **Setup** > **Desktop** > **Advanced**. Your choices of taskbar properties include:

- **Taskbar** Activates the taskbar. The taskbar will be visible no matter what program is open. It remains in the background. Default setting. Deselect to deactivate the taskbar.
- **Always on top** The taskbar will be visible no matter what program is open, reducing screen space but making minimized programs accessible.
- **Hide automatically** The taskbar disappears, increasing screen space. It reappears when you move the cursor to the lower edge of the screen.
- **Show clock** A clock appears on the right-hand side of the taskbar. Moving the cursor over the clock to displays the date.

Your choices of starter properties include:

- **Starter** Automatically starts the starter when the system boots. This is the default setting. Deselect this option to deactivate. The starter can always be accessed by clicking the “Run starter” button in the taskbar.

Your choices of workspace properties include:

- **Number** Sets the number of workspaces. You are allowed up to four. Default is one.

C. Taskbar

The taskbar is a bar on the lower edge of the screen that allows open applications to be minimized and minimized applications to be maximized. It can also display the date and time as well as icons that represent the status of certain operations on the device.

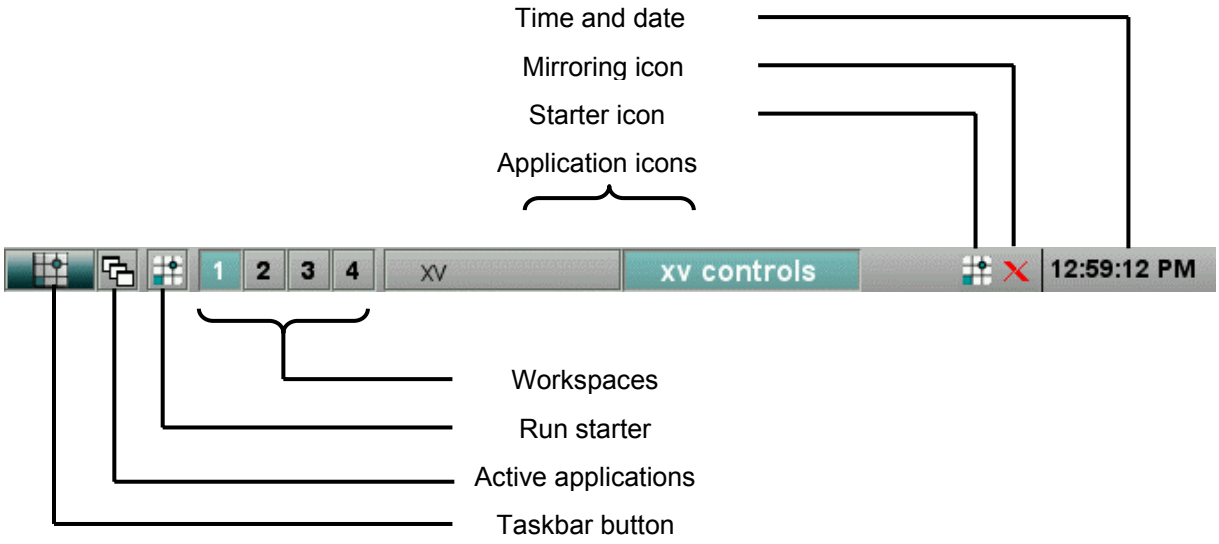


Figure 111: Taskbar

Click with the left mouse button on the **Taskbar button** to display the Taskbar Menu. The Taskbar Menu provides one-click access to the defined applications, shutdown options and the Window menu, and running the eLux NG starter. Hotkey: CTRL+<Win key>

Click with the left mouse button on the **Active applications button** to display a list of all applications that are currently running. Click to toggle between applications. You can also toggle between workspaces, assuming you have defined more than one, or access the Window menu.

If you have defined multiple workspaces, the **Workspace buttons** are active on the taskbar. Select a workspace to switch to it.

The **Run starter button** starts the starter when it is currently not running.

An **Application icon** is displayed in the taskbar when an application is started. Click to switch to this application.

A **Starter icon** appears when you minimize the starter.

Mirroring is a help desk feature that is performed using the management tool Scout Enterprise. When a device is mirrored, the **Mirroring icon** appears.

Finally, if you move the cursor over the time, the **Time and Date** are displayed according to the conventions for your desktop language (in the figure above, English (US)).

Clicking with the right mouse button on a free space in the taskbar opens the View Menu. Here you can arrange open windows on your screen, tiling them horizontally or vertically or cascading them. If you click “Hide All”, their icons will disappear from the taskbar. Open the View Menu again and select “Undo” to reverse this. Even when the application icons are hidden, the sessions can always be accessed from the Window List or by clicking on the Active applications button or by using the hotkey CTRL+<Win key> or CTRL-ALT-<arrow up>.

Appendix 2: Memory Usage

A Thin Client contains the following internal memory: a flash card and main memory.

A. Flash Memory

The following is saved to the flash card:

- software packages (firmware). Rights: read only.
- application files. Rights: read/write.

Different suppliers offer different flash sizes, such as 32 MB, 128 MB, etc. Contact your supplier for a list of available flash sizes.

Each local application or session client requires software saved to the flash card. The size of these packages is displayed in ELIAS NG when the image files are created. The flash card size for your requirements depends on the total number of programs to be run on the Thin Client (local browser, ICA, SAP, RDP, emulation, etc.).

In addition, the directory /setup on the flash card is reserved for application files, such as ICA configuration files, browser history file, etc. This directory is not deleted upon system shutdown.

B. Main Memory

Each Thin Client contains main memory. The directory /tmp in the main memory is reserved for temporary system files or applications.

If you have 64 MB or less of main memory, 4 MB of main memory is reserved for the directory /tmp. If your main memory is greater than 64 MB, the size of /tmp is a minimum 8 MB and can be increased by the user.

The files in the directory /tmp are deleted upon system shutdown.

C. Warning Messages

When disk usage exceeds 95% (either in /setup or /tmp), eLux NG displays a warning message:

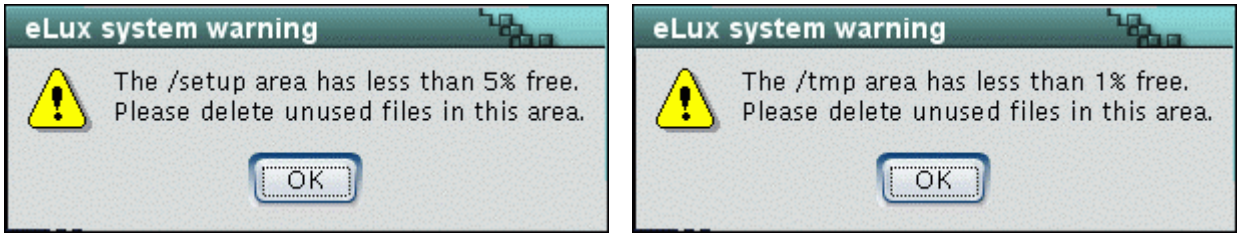

eLux system warning
The /setup area has less than 5% free.
Please delete unused files in this area.
OK
eLux system warning
The /tmp area has less than 1% free.
Please delete unused files in this area.
OK

Figure 112: Low memory warnings

Note which directory is affected! Files in /tmp can be deleted by restarting the device. Files in /setup must be removed by hand.

Tips:

- ICA clients save cache files to the temporary directory. Solution: In advanced ICA settings, set the ICA cache (**Tools** > **Settings** > **Disk Cache** > “Amount of disk space to use”) to zero. See section “4.2.4 Citrix ICA Client for Linux – Advanced Citrix ICA Settings” for information on accessing the advanced ICA settings.
- During a local browser session, cache files are saved to the temporary directory, which can fill up quickly. Solution: Set the browser home directory to a network drive. See section “3.10 Browser Home Directory.”

D. Main Memory Usage

The following survey gives approximate minimum values of memory usage (in MB) for several applications. The stated values vary depending on the functions used during a session and should only be used as a rough guideline.

Application	Approximate Main Memory Requirements	
	First Session	Every Further Session
Basic memory usage	35 MB	–
ICA client (for example, WORD, EXCEL)	10 MB	6 MB
SAP®GUI (SAP/R3)	128 MB	–
X terminal client	3 MB	2,3 MB
Local applications	2,5 MB	1,5 MB
RDP session (native client)	3,9 MB	1,9 MB
Mozilla	20 MB	–
XDMCP	2,5 MB	–
Emulations for Motif 3270, 5250, 9750 (UniCon Software GmbH)	2,3 MB	2,1 MB
eterm emulation 97801	0,9 MB	0,8 MB

Figure 113: Main memory usage table

Appendix 3: Examples of Internet Profiles

Following are the preset hardware profiles. The following providers are present in Germany and may or may not be available in other countries:

- Arcor AG (www.arcor.de)
- freenet.de AG (www.freenet.de)
- T-Online International AG (www.t-online.com)

The profiles are meant to serve as guidelines and should be modified based on the provider you use. Except for T-Online, the numbers listed are call-by-call. No registration is required. The dial-up information listed here was current as of June 8, 2005. Please contact the provider before using to verify availability and the dial-up rate.

Follow these general rules when entering network information for a call-by-call provider:

- **Profile name** The profile name is a name of your choosing.
- **User account** May not contain symbols or be left blank.
- **Password** May not contain symbols or be left blank.

A. Examples of ADSL Connections

Example of an ADSL connection using T-Online

Profile name:	*<arbitrary>*
User account:	000000000000888888888880001@t-online.de
Password:	***
Identification:	PAP
Idle time-out:	240
Manager time-out:	60

The user account has the following format:

12-digit ID number + *12-digit T-Online number* + *4-digit co-user number* + @ + t-online.de

Consult your T-Online order for this information.

B. Examples of ISDN Connections

Example of an ISDN connection using Arcor

Profile name:	*<arbitrary>*
User account:	arcor
Password:	internet
Identification:	PAP
Idle time-out:	240
Manager time-out:	60
Dial-up number:	01920785 (“Spartarif Tag”)
MSN:	0
Callback:	Not activated
Use local IP address:	Not activated

Example of an ISDN connection using freenet.de

Profile name:	<*arbitrary*>
User account:	<*arbitrary*>
Password:	<*arbitrary*>
Identification:	PAP
Idle time-out:	240
Manager time-out:	60
Dial-up number:	019231770 (“Internet-by-call”)
MSN:	0
Callback:	Not activated
Use local IP address:	Not activated

Example of an ISDN connection using T-Online

Profile name:	<*arbitrary*>
User account:	000000000000888888888888#0001
Password:	***
Identification:	PAP
Idle time-out:	240
Manager time-out:	60
Dial-up number:	0191011
MSN:	0
Callback:	Not activated
Use local IP address:	Not activated

The username has the following format:

12-digit ID number + 12-digit T-Online number + # +4-digit co-user number

Consult your T-Online order for this information.

C. Examples of Modem Connections

Example of a modem connection using Arcor

Profile name:	<*arbitrary*>
User account:	arcor
Password:	internet
Identification:	PAP
Idle time-out:	240
Manager time-out:	60
Dial-up number:	01920785 (“Spartarif Tag”)

Example of a modem connection using freenet.de

Profile name:	<*arbitrary*>
User account:	<*arbitrary*>
Password:	<*arbitrary*>
Identification:	PAP
Idle time-out:	240
Manager time-out:	60
Dial-up number:	019231770 (“Internet-by-call”)

Example of a modem connection using T-Online

Profile name:	<*arbitrary*>
Password:	***
User account:	000000000000888888888888#0001
Identification:	PAP

Idle time-out:	240
Manager time-out:	60
Dial-up number:	0191011

The username has the following format:

12-digit ID number + 12-digit T-Online number + # +4-digit co-user number

Consult your T-Online order for this information.

Appendix 4: Configuring Kiosk Mode

Kiosk mode allows you to restrict the user functionality of the browser. The individual elements (and layout) of the graphical user interface are defined in XML User Interface Language (XUL). The functionality is formulated in JavaScript.

For kiosk mode, a number of XUL and JavaScript files are bundled into a JAR archive. To define your own kiosk mode, you must edit these XUL documents.

For more information on XUL, see http://www.xulplanet.com/tutorials/xultu/intro.html.

A. Kiosk Mode for Firefox

Firefox comes with a default kiosk mode with the following features:

- URL bar has been blended out
- Toolbar cannot be customized by user
- "Save to disk" is deactivated (downloads still allowed)
- Preferences cannot be customized by user
- Not in full screen mode

To make additional changes, you will have to customize kiosk mode yourself. The JAR archive that comes with Firefox can be used as a template. It contains all XUL documents used to describe the user interface.

⇨ To customize kiosk mode for Firefox

1. Install the kiosk mode software (in the respective browser package).
2. Copy the following file to a machine with unzipping software:
   `/opt/MozillaFirefox/lib/chrome/modes/kioskmode.jar`

   Tip On the Thin Client, you can use the UNIX copy command ("cp <*file directory*> <*target directory*>") to copy the file to an NFS or SMB drive, or in the eLux NG starter the FTP function available in **Setup** > **Diagnosis**.

3. Unzip the file.
   Windows: Winzip tool
   UNIX: unzip tool (command: `unzip kioskmode.jar`)
   The directory "content" with the subdirectory "browser" will be created.

   Warning Do not change the directory structure. This will make your rezipped JAR file unusable.

4. Edit the appropriate files using Notepad or an XUL editor. Comment out functions you want to deactivate and interface elements (menus, toolbars, etc.) you do not want displayed. For an example, view the document "browser.xul" from "/opt/MozillaFirefox/lib/chrome/modes/kioskmode.jar", which mainly describes the browser interface.

Tip A description of what to edit exceeds the scope of this document. For more information, there are many tutorials available on the Web, for example, http://tln.lib.mi.us/~amutch/pro/phoenix/kiosk.htm.

5. Zip the file to the name “kiosk.jar”.
   Windows: Winzip program
   UNIX: “zip” command with the “-r” option (recursive) (`zip –r kiosk.jar`)
6. Copy the file to the following directory on the Thin Client:
   `/setup/firefox/kiosk.jar`
7. Set the homepage and start page in the application definition (**Configuration** > **New** > **Browser**). Use full URL format: “http://<*domain name*>”. The Web page can be on the Internet, on your thin client, or on another computer on the network. Click to select **Kiosk mode**.

Firefox uses the *.jar file according to the following selection rules:

1. /opt/MozillaFirefox/lib/chrome/modes/normalmode.jar
   This file is used if the **Kiosk mode** check box in the browser definition is deactivated (always the case when the „Kiosk mode“ software has not been installed).
2. /setup/firefox/firefox.ini
   The following entry in the Firefox initialization file is used if the **Kiosk mode** check box in the browser definition is activated, “File=<*path*>/<*file*>”, where *path* is the complete path of the *.jar file and *file* is the file name. The default value “/setup/firefox/kiosk.jar” can be customized to the path and name of your choosing, for example “/smb/smith/browser/testkiosk.jar”.
3. /opt/MozillaFirefox/lib/chrome/modes/kioskmode.jar
   This file is used if the **Kiosk mode** check box in the browser definition is activated and the *.jar archive specified in the Firefox initialization file (/setup/firefox/firefox.ini) does not exist.

B. Kiosk Mode for Mozilla

Mozilla comes with the following default kiosk styles (so-called “chromes”):

- **full** A modified toolbar is displayed. All other buttons have been blended out.
- **blank** All buttons have been blended out. A time-out loads the homepage after 30 seconds idle time.
- **urlbar** A modified toolbar and the URL bar are displayed. All other buttons have been blended out.

All styles have the following:

- Keyboard shortcuts are deactivated, however the keyboard is still active.
- The homepage and start page are taken from the application definition.
- Toolbar cannot be customized by user
- Preferences cannot be customized by user

⇨ To activate kiosk mode for Mozilla

1. Install the kiosk mode software (in the respective browser package).
2. In `/setup/mozilla/mozilla.ini` set the following style parameter (so-called “chrome”):
   `[kiosk]`
   `chrome=`<*value*>
   where *value:*

`full`: A modified toolbar (Back, Forward, Reload, Stop, Print) is displayed. You can choose a Web site from the list of base sites. All other buttons are blended out. Keyboard shortcuts are deactivated, however the keyboard is still active.

`blank`: All buttons in the browser are blended out. In addition, returns to the homepage after a set idle time.

`urlbar`: A modified toolbar (Back, Forward, Reload, Stop, Print) and the URL bar are displayed. All other buttons are blended out. Keyboard shortcuts are deactivated, however the keyboard is still active.

To set the chrome parameter locally you can use the "ucinitool" command. Example: To set the chrome to "urlbar," on the Thin Client open a local shell and type the following (case sensitive):

```
ucinitool -f /setup/mozilla/mozilla.ini –s kiosk Chrome=urlbar
```

Tip To edit a file in `/setup`:

1. Use the UNIX editor vi
2. Use the text editor (see "4.8.8 Text Editor")
3. Transfer the file to a machine with editing software, edit the file and copy it back to the Thin Client

Tip On the Thin Client, you can use the UNIX copy command ("cp <*file directory*> <*target directory*>") to copy the file to an NFS or SMB drive, or in the eLux NG starter the FTP function available in **Setup** > **Diagnosis**.

3. Depending on which style you used, set additional parameters:

   "full": Set the list of base sites in `/setup/mozilla/uri-list.properties`. Example: To set three entries:

   ```
   uriCount=3
   uriString1=My eLux
   uriValue1=http://www.myelux.com

   uriString2=UniCon Software GmbH
   uriValue2=http://www.unicon-ka.de

   uriString3=Mozilla
   uriValue3=http://www.mozilla.org
   ```

   "blank": Returns to the homepage after 30 seconds idle time. Set the time in `/setup/mozilla/kioskDefault.properties`.

   "urlBar": No further parameters available.

4. Set the homepage and start page in the application definition (**Configuration** > **New** > **Browser**). Use full URL format: "http://<*domain name*>". The Web page can be on the Internet, on your thin client, or on another computer on the network. Click to select **Kiosk mode**.

This section described how to activate the default styles by editing files in /setup. The required files can be transferred to many Thin Clients using the Scout Enterprise file transfer function. This is the easiest method. Making changes to the *.jar file (/usr/mozilla/chrome/kiosk.jar) directly requires EBK.

Appendix 5: Setting Thin Client Time to UTC

Coordinated Universal Time (UTC) is the successor to and modern version of Greenwich Mean Time (GMT). The system time in the Thin Client's BIOS must be set to UTC. You must do this directly on the Thin Client, either in the eLux NG software (recommended) or BIOS Setup.

eLux NG Software

The easiest method is to use the eLux NG main screen (**Setup** > **Desktop**) and enter a time server conform to Internet standard RFC 868 ("Time protocol").

If your network does not have such a time server, manually enter the time and date settings, and select the time zone from the drop-down list.

Click **Apply**.

This updates the time settings in BIOS automatically. There is no need to enter BIOS Setup. In addition, the fall and spring Daylight Saving Time changes are made automatically.

BIOS Setup

Alternatively, you can enter BIOS Setup and change the system time manually to UTC. To calculate UTC, take local time minus the time zone difference from GMT (found in the **Time Zone** drop-down list in Scout Enterprise **Setup** > **Desktop** tab). In Summer Time, subtract an additional hour to take into account Daylight Saving Time.

UTC in winter months = (local time – time zone difference)

UTC in summer months = (local time – time zone difference) – 1 hour

For example, if you are in Amsterdam, the **Time Zone** drop-down list in Scout Enterprise shows the local time for Amsterdam is GMT plus one hour (GMT + 1). Thus, you should change time setting in BIOS to the local time minus one hour. If local time is 17:45, system time in BIOS should be set to 16:45. If it is Summer Time (Daylight Saving Time), the system time should be set to local time minus two hours, or 15:45. Note that BIOS system time uses the 24-hour system.

You only need to set the system time once. Fall and spring Daylight Saving Time changes are made automatically.

Appendix 6: Supported Hardware

The following hardware components are supported by eLux NG version 1.21 and later.

Type	Product	Producer	Specification
LAN	3C900B Combo	3Com Corporation	10 Mbps Ethernet, RJ-45, AUI and BNC connectors for 10Base-T, 10BASE5 and 10BASE2
	3C905C-TX-M	3Com Corporation	10/100 Mbps Fast Ethernet, RJ-45 connector
	AT-2450FT	Allied Telesyn, Inc.	10 Mbps fiber (ST or SC) connectors PCI bus
	AT-2450FTX	Allied Telesyn, Inc.	10 Mbps fiber (ST or SC), 10/100 auto-sensing port (RJ-45), PCI bus
	AT-2700FX	Allied Telesyn, Inc.	100 Mbps fiber (ST or VF45), 10/100 auto-sensing port, PCI bus
	BCM570x (Tigon 3)	Broadcom Corp.	Gigabit Ethernet controller, PCI
	IBM 16/4 Adapter 2	IBM Corporation	Token Ring, PCI
	Intel Pro / 1000 MT	Intel Corporation	Gigabit Ethernet controller, PCI
	OLICOM 3140	Madge Limited	Token Ring, PCI
	SK9521	SysKonnect	Gigabit Ethernet controller, PCI
	Smart MK4 PCI	Madge Limited	Token Ring, full duplex 100/16/4 Mbps switched and 16/4 Mbps shared connectivity
Modem			External Hayes compatible modem 56 k
Keyboard	FSC K235	Fujitsu Siemens Computers	IBM-MF compatible keyboard for 3270 terminal emulation, PS/2
	FSC K257	Fujitsu Siemens Computers	Trimodal keyboard for terminal emulations, PS/2
	FSC K319 (KBPC C2)	Fujitsu Siemens Computers	Keyboard with integrated PC/SC compatible smart card reader, USB
	FSC K329 (KBPC CX)	Fujitsu Siemens Computers	Keyboard with integrated PC/SC compatible smart card reader, USB
	SUN Type 6	Sun Microsystems	SUN Type 6, USB
	Cherry G80-1501	Cherry GmbH	Keyboard with integrated smart card reader compatible with German health insurance cards, PS/2
ISDN	Fritz!PCI 2.0	AVM GmbH	ISDN interface card, PCI
	Fritz!Card USB V2.1	AVM GmbH	External ISDN adapter, USB
	Diva ISDN V2.0.1	Eicon Networks Corporation	ISDN interface card, PCI
Wireless	Aironet 350 Series	Cisco Systems, Inc.	Wireless LAN adapter card, IEEE 802.11b and 802.11g compliant, PCI
	Wireless USB D1700	Fujitsu Siemens Computers	Wireless LAN network adapter, IEEE 802.11b compliant, USB
	DWL-G520	D-Link Corporation	Wireless LAN adapter card, IEEE 802.11b and 802.11g compliant, PCI

Type	Product	Producer	Specification
Video	G200 Quattro	Matrox Graphics Inc.	Matrox G200 graphics chip, single PCI card for dual or quad output
	G450 PCI32	Matrox Graphics Inc.	Matrox G450 chip for dual output
	G450 MMS Quad	Matrox Graphics Inc.	Matrox G450 chip, single PCI card Multi-Monitor Series for dual or quad output
USB	EZ100PU	Castles Technology	USB card reader
	Datakey 731	SafeNet	USB card reader
	GemPC Key	Gemplus	Portable USB reader in key format that reads/writes smart cards in plug-in form
	GemPC Twin	Gemplus	USB external smart card reader/writer for USB and serial (only USB supported)
	SCR USB internal	Fujitsu Siemens Computers	USB internal smart card reader/writer
	SCR USB Solo 2	Fujitsu Siemens Computers	USB external smart card reader/writer
	SPR532	SCM Microsystems	Dual mode PINpad. For use as USB card reader (PINpad not supported, RS232 not supported)
	USB V.24 converter	DIGITUS, Sandberg	USB to serial adapter, PL2303 or PL2303-HX chip
			USB 3.5", 1.44MB external floppy disk drive[1]
			USB CD-ROM[3]
			USB stick[3]
Handheld	iPAQ	Hewlett Packard	Can be accessed in Citrix ICA session via serial adapter
	Pocket PCs, e.g. Pocket Loox	Fujitsu Siemens Computers	Can be accessed in Citrix ICA session via serial adapter. Requires: Microsoft Active Sync or others (free software)
	Tungsten E Tungsten 3 Tungsten 5	palmOne, Inc.	Can be accessed in Citrix ICA session via serial adapter Requires additional software: OneBridge Sync Server V4.2 and later from Extended Systems, Inc.

[1] eLux NG supports a large number of USB mass storage devices (floppy, CD-ROM, USB stick). The USB device can be used if it is automatically detected when it is plugged in.

Appendix 7: Supported Smart Card Readers

The following smart card readers are supported by the “PCSC lite” (pcsc_lite) package (eLux NG version 1.17 and higher).

For more information on smart cards, see “3.15 Smart Card”.

Feature	Driver Package				
	Generic CCID	**Gemplus CCID**	**OMNIKEY CCID**	**OMNIKEY CardMan**	**Castles EZ100**
PKCS#11	–	GEM	DataKey	GEM	GEM
RDP CSP	–	GEM	GEM	GEM	GEM
		KOBIL	KOBIL		
		SafeSign	SafeSign	SafeSign	SafeSign
ICA Roaming	–	+	+	–	+
Secure PIN	+	–	–	–	–
Reader	ACR 38	ACR 38			
	ActivCard	ActivCard			
					CASTLES EZ100
					CASTLES EZ100PU
		Cherry SmartBoard X44	Cherry SmartBoard X44		
	Cherry xx33	Cherry xx33			
	Cherry xx44	Cherry xx44	Cherry xx44		
	Dell keyboard SK-3106	Dell keyboard SK-3106			
	Dell smart card reader keyboard	Dell smart card reader keyboard			
		FSC SmartCard Keyboard USB 2A	FSC SmartCard Keyboard USB 2A		
				FSC SmartCard Reader USB	
		FSC SmartCard Reader USB 2A	FSC SmartCard Reader USB 2A		
	GemPC Key	GemPC Key			
	GemPC Twin	GemPC Twin			
	GemPC433 SL	GemPC433 SL			
	KAAN Advanced				

Feature	Driver Package				
	GENERIC CCID	GEMPLUS CCID	OMNIKEY CCID	OMNIKEY CARDMAN	CASTLES EZ100
Reader	KAAN Base				
	KAAN mIDentity				
	KAAN SIM III				
	LTC31	LTC31			
				OMNIKEY CardMan 2020	
	OMNIKEY CardMan 3121	OMNIKEY CardMan 3121	OMNIKEY CardMan 3121		
			OMNIKEY CardMan Smart@Key		
			OMNIKEY CardMan Smart@Link		
	Oz776				
	SCR 331	SCR 331			
	SCR 3310				
	SCR 331-DI	SCR 331-DI			
	SCR 333	SCR 333			
	SCR 335	SCR 335			
	SK-3105	SK-3105			
	SPR 532	SPR 532			

An up-to-date version of this table is available in the Internet. You must complete a free one-time registration.

⇨ To view an up-to-date list of smart card readers on the Internet

1. Go to the Web site www.myelux.com.
2. In the navigation links on the left-hand side, click “Login.”
3. If you have not yet registered, click “Registration” and follow the instructions. You will receive your login and password in one to three days. Otherwise enter your login information and click “Submit.”
4. The main page is displayed with a “Download” and “Service” area. Click “eLux software packages.” This opens the “Available containers“ page.
5. Under “eLux NG”, locate your hardware platform and click on the link in the column under “Released packages.” Select container version 1.17 or later.
6. The container page lists the container ID and the hardware platform. As containers are hardware specific, please verify that you have selected the correct container and, if necessary, go back and correct your selection.
7. Scroll down until you find “PCSC lite.” Click on “Details.”
   A list of supported smart card reader and features is displayed.

Appendix 8: Port Assignments

The following is a list of TCP/IP ports for eLux NG und Scout Enterprise. The port numbers are fixed. Exceptions are indicated with a footnote.

eLux NG

Port	Type	Description	How to Deactivate	Port Type
	ESP	VPN (Cisco)	Uninstall the package “Cisco Systems VPN client” (cisco_vpnclient)	Incoming
	ESP	VPN (Cisco)	Uninstall the package “Cisco Systems VPN client” (cisco_vpnclient)	Outgoing
21	TCP	Updating via FTP control port (dynamic data port)		Outgoing
22	TCP	SSH applications		Outgoing
23	TCP	3270, 5250, 97801 emulations and telnet sessions		Outgoing
37	TCP	Time server – RFC 868	Do not configure a time server (**Setup** > **Desktop**)	Outgoing
37	UDP	Time server – RFC 868	Do not configure a time server (**Setup** > **Desktop**)	Outgoing
53	TCP	DNS server (Windows)		Outgoing
53	UDP	DNS server		Outgoing
67	UDP	DHCP server		Outgoing
68	UDP	DHCP client (or BootP client)	Configure a local IP address (**Setup** > **Network**)	Incoming
69	UDP	TFTP server (only used during a Recovery Installation)		Outgoing
69	UDP	TFTP server (only used during a Recovery Installation)		Incoming
80	TCP	Updating using HTTP (and proxy port, if used)		Outgoing
102	TCP	Emulations to BS2000 mainframes		Outgoing
111	UDP	Port mapper – drive access on NFS servers. Works with NFSD drive access (port 2049) and mountd (random)	Uninstall the FPM “Drive Support” (automount) in baseOS	Outgoing
111	TCP	Port mapper – RPC internal use only. Works with nlockd (random)	Uninstall the FPM “Drive Support” (automount) in baseOS	Incoming
139	TCP	SMB drive mapping (NetBIOS) and SMB user authentication	Uninstall the FPM “Drive Support” (automount) in baseOS and the package “User authorisation modules” (userauth)	Outgoing

Port	Type	Description	How to Deactivate	Port Type
139	UDP	SMB drive mapping (NetBIOS) and SMB user authentication	Uninstall the FPM “Drive Support” (automount) in baseOS and the package “User authorisation modules” (userauth)	Outgoing
161	UDP	SNMP	Uninstall the package “net-snmp” (snmp)	Incoming
161	UDP	SNMP	Uninstall the package “net-snmp” (snmp)	Outgoing
162	UDP	SNMPTRAP		Outgoing
177	UDP	XCMCP protocol		Outgoing
389	TCP	LDAP user authentication		Outgoing
500	UDP	VPN (Cisco, FreeS/WAN)	Uninstall the package “Cisco Systems VPN client” (cisco_vpnclient) or “Linux Free S/WAN” (swan)	Incoming
500	UDP	VPN (Cisco, FreeS/WAN)	Uninstall the package “Cisco Systems VPN client” (cisco_vpnclient) or “Linux Free S/WAN” (swan)	Outgoing
514	TCP	Shell, RSH applications		Outgoing
515	TCP	Printing over LPD		Outgoing
515	TCP	Printing over LPD	Cannot be deactivated, in the future can be deactivated by uninstalling the package “Printer support”	Incoming
631	TCP	CUPS (IPP) print client	Uninstall the package “CUPS print client” (qtcups)	Outgoing
631	UDP	CUPS (IPP) print client	Uninstall the package “CUPS print client” (qtcups)	Outgoing
2049	UDP	NFSD drive access NFS	Uninstall the FPM “Drive Support” (automount) in baseOS	Outgoing
5681	TCP	Scout Enterprise management port	Cannot be deactivated	Incoming
5900	TCP	Mirroring eLux NG desktop	Disable mirroring (**Setup** > **Security**) or uninstall the EPM “eLux mirroring” (mirror)	Incoming
5901	TCP	Mirroring first XDMCP session	Disable mirroring (**Setup** > **Security**) or uninstall the EPM “eLux mirroring” (mirror)	Incoming
5902	TCP	Mirroring second XDMCP session	Disable mirroring (**Setup** > **Security**) or uninstall the EPM “eLux mirroring” (mirror)	Incoming
6000	TCP	Remote X11 applications	Click to deselect the check box "Allow remote X11 clients" (**Setup** > **Security**)	Incoming
6001	TCP	First XDMCP session		Incoming
6002	TCP	Second XDMCP session		Incoming
7100	TCP	Font server[1]		Outgoing
7777	TCP	Scout Enterprise manager		Incoming
7777	TCP	Scout Enterprise manager		Outgoing

Port	Type	Description	How to Deactivate	Port Type
9100	TCP	Direct Print to parallel port[2]	Deactivate the check box “TCP direct print” (**Setup** > **Printer**).	Incoming
9101	TCP	Direct Print to USB port[2]	Deactivate the check box “TCP direct print” (**Setup** > **Printer**).	Incoming
16001	TCP	e-sound system for audio in XDMCP sessions	Deactivate the check box “Enable sound in XDMCP sessions” (**Setup** > **Multimedia**).	Incoming

[1] Port number can be assigned by the administrator in eLux NG starter (**Setup** > **Screen** > **Advanced**)

[2] Port number can be assigned by the administrator in eLux NG starter (**Setup** > **Printer**).

Scout Enterprise Server

Port	Type	Description	How to Deactivate	Port Type
7778	TCP	Scout Enterprise Console		Incoming
7779	TCP	Wake-on-LAN gateway		Outgoing

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